INDUSTRIAL EQUIPMENT NEWS

JULY - 1951
VOL. 19 • NO. 7

The Original IEN FOUNDED 1933

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

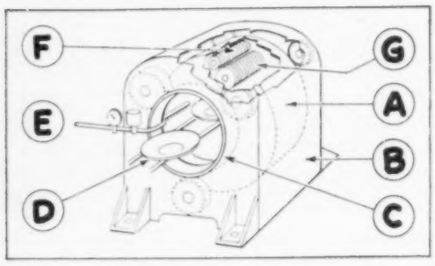
AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

BREVITY—Identify by IEN-6504 if you write the maker

PAINTING . . Centrifugal machine surrounds work on central conveyor

Source: GYROMAT CORP.
P. O. Box 600-A, Fairfield, Conn.



Rotating drum A inside the housing **B** of this new painting machine is fitted with restricted-diameter inlet and outlet collars **C** at the front and back of the housing. A centrally located conveyor **D** carries the work to be painted. Drum drive is by a motor at the rear. The company is in production at present on two machine sizes in which the inlet and outlet openings measure 10 and 20 inches.

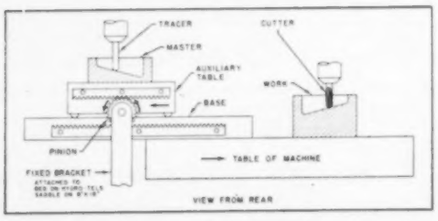
Paint is introduced at suitable pressure through a feed line **E** to a distributor head inside the drum. The paint issues from this head through nozzles to spread a film of paint evenly over the length of the drum interior as it rotates to carry this film around to feed idlers as at **F**. These idlers pick off the film and throw it to high-speed motor-driven rotors as at **G**. The paint is turned into a fine mist to fill the drum interior and float onto the work as it passes through.

Excess mist collects on the drum interior combining with the new paint film. The coating volume delivered by each rotor can be adjusted while the machine is in operation. Vapor-pressure equilibrium is maintained within the drum by baffles and vestibules, or their equivalent, to eliminate need for any exhaust equipment and to maintain material viscosity at a predetermined point.

BREVITY—Identify by IEN-6505 if you write the maker

MILLING . . Duplicating attachment to make dies from reverse hand masters

Source: CINCINNATI MILLING & GRINDING MACHINES INC.
Marburg & Kline Sts., Cincinnati 9, Ohio



Reverse Image designates a new attachment for application on the company's 8 by 18-in. tool-and-die milling machine. It applies in milling left-hand dies from right-hand masters or vice versa. It operates on the automatic depth-control method. Similar attachments are available for the company's 16 and 28-in. vertical Hydro-Tel milling machines. It makes one master die suitable for duplicating both right and left-hand matching halves.

Mounting is on the machine table at its right-hand end under the vertical depth-control unit. The assembly consists of a rigid supporting base carrying an auxiliary table on rollers and a pair of matched racks, one on the supporting base and one on the table, with engagement by a gear carried in a fixed bracket. The gear acts as an idler between the two racks to translate movement of the machine table to movement of the attachment table in the opposite direction so a master shape mounted on the auxiliary table will be reproduced in the die block to the opposite "hand."

MAKE THE STEEL MILLS YOUR SCRAP YARD!

BREVITY—Identify by IEN-6506 if you write the maker

DESIGN . . Mechanism components for tentative mechanical assemblies

Source: TECHMOTION LABORATORIES
P. O. Box 2522, Chartley, Mass.

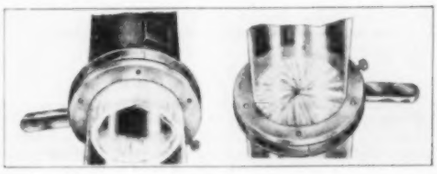
Aluminum gears, levers, links, with screws and push-fit fastenings such as pins, collars, sleeves and splines are contained in this new Techmotion set of mechanism components. The parts are packaged in a compartmented wood case with a 12 by 14-in. perforated base board.

Two available sets include a No. 10 with 65 aluminum elements, 120 aluminum fastenings, 200 screws and 300 wood push-fit fastenings, and a second No. 20 set containing 105 of the elements, 180 fastenings, 400 screws and 400 push-fit fastenings. List prices are $95 and $145. The case measures 13 by 18 by 3 inches. The elements are interchangeable.

BREVITY—Identify by IEN-6507 if you write the maker

VALVE . . Fabric sleeve assembly handles dry and lump materials from bin

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.



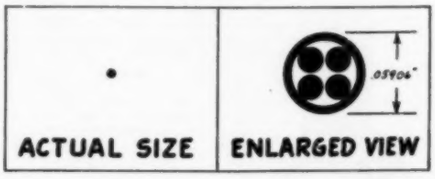
Flow Control designates new fabric valve assembly for application on the bottom of a bin or hopper, or for use in an air duct involving flow in one direction for a single valve unit. The operating element is an assembly of rotating collar and fabric sleeve made of duck, nylon or rubber.

Rotating the collar draws the sleeve into closed position or releases it radially as shown in the open and closed views in the illustration. The fabric will stand up for a considerable time in daily service. It can be replaced at little expense. Five sizes in the line apply in openings to 12 in. in diameter.

BREVITY—Identify by IEN-6508 if you write the maker

BEARING . . Ball pivot assembly measures 0.05906 in. in outside diameter

Source: MINIATURE PRECISION BEARINGS
51 Mascoma St., Keene, N. H.



Four hardened steel balls, described by the company as being about as big as a flea's knees, ride in the raceway of this new miniature pivot bearing. Diameter tolerance is held to plus zero and minus 0.0002 inch. The pivot shaft holds the balls in place in a mechanism assembly. The new bearing is the most recent addition to the company's line which started in 1919 with a radial ball bearing ⅜ in. o.d.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

PRODUCT INFORMATION IS MORE VITAL NOW THAN EVER

WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 88 and 89 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

From a Plant Engineer

"Good text, good makeup, especially informative; keep sending Industrial Equipment News to us."

•

Departments

READER SERVICE FORM — Pages 16-17 and 88-89
To assist you in securing the information you want

SUBJECT INDEX — Pages 102-103
With our four-step suggestion on how to use it

I'M THE SALESMAN — Page 4
Salesmen really want to help you with your problems

NEWS NOTES — Page 24
Reviews of unusually helpful literature and services

NEW LITERATURE — Page 74
Condensed reviews of current manufacturers' catalogs

"I WISH I HAD" — Page 104
Requests we cannot answer, printed in the hope you can

•

Our Selections in This Issue

BALANCING — Page 13
Milling machine, weight controlled for connecting rods

BEARINGS — Page 24
Useful information booklets on ball bearing maintenance

CLEANING — Page 3
Oxy-acetylene torch and attachment to clean iron castings

CRANE — Page 6
Load fork attachment converts crane for work handling

FABRIC — Page 55
Waterproof material, woven nylon fibers, plastic coated

FASTENING — Page 2
Steel anchor studs driven by cartridge in portable tool

FURNITURE — Page 73
Demountable wood desk, files, partitions, shelves

HANDLING — Page 39
Stacking machine loads cartons or cases on pallet

HANDLING — Page 72
Lift hook to assemble flush in shipping case corners

MANAGEMENT — Page 28
Three examples of financial reports for employees

PACKAGING — Page 9
Foamed plastic to cushion light and fragile products

PLATING — Page 98
Machine and solution to chromium plate small tools, parts

W. E. Smith — Editor & V. Pres.
F. Moore Smith — V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

HELP TO CONSERVE PAPER
MAKE THIS ISSUE DO DOUBLE DUTY
FILL IN BELOW AND ROUTE TO OTHERS
IN NEED OF PRODUCT INFORMATION

- ☐ *Plant Operating Mr.* _____
- ☐ *Production Mr.* _____
- ☐ *Engineering Mr.* _____
- ☐ *Product Design Mr.* _____
- ☐ *Purchasing Mr.* _____
- ☐ _____

BREVITY—Identify by IEN - 6509 if you write the maker

BEARING LOAD COMPUTATION available to Designers in book from New Departure Library

In this simplified version of ball bearing load computation, the process of computing reactions is explained, making use of the three conditions of equilibrium, and followed by typical examples numerically worked out for various types and arrangements of gears.

Using your company letterhead, please ask for booklet LC . . . New Departure, Division of General Motors, Bristol, Connecticut.

137

BREVITY—Identify by IEN - 6510 if you write the maker

FREE! 32-PAGE HANDBOOK SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from:
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

HANDBOOK SHOWS HOW

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.

Technical Coatings Since 1895

Dept. IE, Kankakee, Ill.

BREVITY—Identify by IEN - 6511 if you write the maker

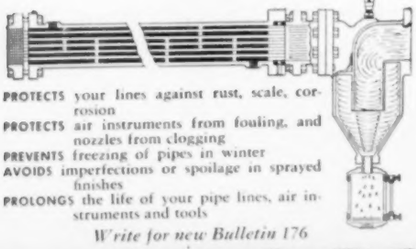
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with **ADAMS** Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

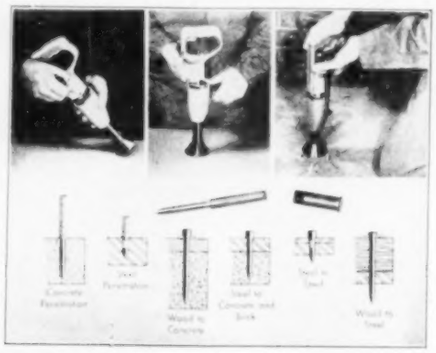
Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

BREVITY—Identify by IEN - 6512 if you write the maker

FASTENING . . Steel anchor studs driven by cartridge in portable tool

Source: REMINGTON ARMS CO.
751 Barnum Ave., Bridgeport 2, Conn.



Model 450 Stud Driver is new tool that employs a gunpowder charge in a 32-caliber cartridge to drive a hardened steel stud into steel, concrete, masonry, wood, structural materials. It can be operated at a sustained speed of 5 studs per minute. The action replaces drilling and stud setting by conventional means. Maximum penetration is ¾ in. in mild steel.

Releasing a catch permits opening the tool into two parts, a barrel and a handle, that are joined by an off-center pivot. Desired combination is made of one of 20 stud designs and one of five strengths of powder charge in cartridge form. The combination is inserted into the tool, the barrel turned to close and latch, and the tool is placed against the surface into which the stud is to be driven.

Before firing, the tool must be pushed against the work so a sleeve connected to a bottom guard shield retracts into the tool about an inch. Then a thumb-operated safety catch can be depressed to free the trigger. Firing is by squeezing the trigger in the hand grip. Correct interlocked sequence must be observed to operate the tool. A red dot in a window near the handle indicates that the tool is cocked. There is little recoil in operation.

Cartridges are color coded by strength of charge. A recess in the end of a plastic plug in each cartridge receives the stud. This plug is expelled with the stud, protects external threads from damage in firing. Studs are heat-treated alloy steel, range in length from ⅜ to 2¾ inches. Four types have a nail head, a break-off head for semi-flush mounting, internal threads and external threads.

Tool length is 14 inches. Weight is 5½ pounds. Quadrant marks on the guard shield assist in locating against scribed lines on a surface. Special shields are available for use in corners, against a wall, on round or shaped surfaces.

BREVITY—Identify by IEN - 6513 if you write the maker

MANAGEMENT . . How to use motion pictures for time and motion studies, training, in new booklet

Bell & Howell Co.
7102 McCormick Road, Chicago 45, Ill.

"Measure Time Accurately" titles new 20-page booklet on the use of 16-mm. motion picture cameras and projectors for industrial engineering work. The booklet contains a group of illustrated suggestions and a list of recommended equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6514 if you write the maker

For Lifting and Holding Heaviest Loads

DUFF-NORTON *Ratchet Lowering* **JACKS**

for INDUSTRIAL PLANTS • MILLS • MINES • RAILROADS • CONTRACTORS RIGGERS • TRUCKERS • ETC.

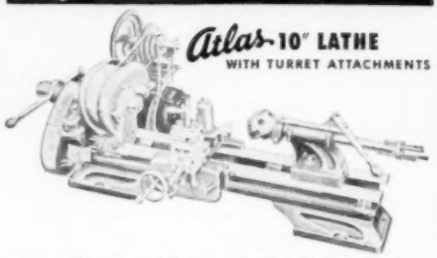
Constructed for long, trouble-free service—smooth action—Duff-Norton Ratchet Lowering Jacks raise loads weighing from 5 to 25 tons from 7½" to 18". Built for rugged use. Many sizes to choose from.

Write for Catalog 203G.

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

BREVITY—Identify by IEN - 6515 if you write the maker

LOWEST COST SEMI-AUTOMATIC TURRET LATHE



Atlas 10" LATHE WITH TURRET ATTACHMENTS

Every feature needed to handle small parts production *quickly* and *economically* is provided by this Atlas 10" lathe with turret attachments. It's the ideal low-cost solution to today's small parts production problems.

Headstock spindle is Timken roller bearing equipped to stand up through round-the-clock production runs. Heaviest back gears of any 10" lathe permits *heavier cuts.* 16 spindle speeds (28 to 1072 RPM) give correct speed for every operation. Complete V-belt drive. Spindle hole takes stock up to 15/16".

See how this rugged, precision-built Atlas can save you money on small part production runs. Send for latest catalog with complete details.

Atlas Press Co. 781 N. PITCHER ST. KALAMAZOO, MICHIGAN

MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

BREVITY—Identify by IEN - 6516 if you write the maker

Knocked OUT!

Fire is knocked out in seconds by this 15-lb. Kidde CO_2 extinguisher. Always ready—just aim—then pull the trigger. Write for free literature.

Walter Kidde & Company, Inc.
736 Main St., Belleville 9, N. J.

Kidde

BREVITY—Identify by IEN - 6517 if you write the maker

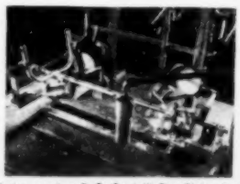
For fast production of strong tubular assemblies

braze with EASY-FLO

This amazingly free-flowing, full-penetrating, *low-temperature silver brazing alloy* just naturally makes joints stronger than the metals joined. What's more you can easily get any production you want by using a fast heating method and a simple set-up that speeds handling. The frame assembly of the popular Castelli toy tractor is a good example. With the gas-air set-up shown and unskilled labor, they easily maintain a production of 116 frames an hour.

GET THE FULL STORY IN BULLETIN 20

It's packed with useful information on joint design and fast heating and production methods. Write for a copy today.



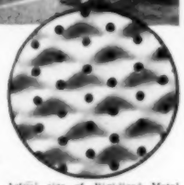
Photos courtesy F. C. Castelli Co., Phila., Pa.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Agents in Principal Cities. In Canada: HANDY & HARMAN of Canada, Ltd., Toronto

BREVITY—Identify by IEN - 6518 if you write the maker

SOUND ABSORBED in Modern Library

by ACOUSTICAL FINS made of Rigidized DESIGN STRENGTHENED Metals



Actual size of Rigidized Metal pattern 6-W1, perforated.

The ultra-modern Youth Library at Fitchburg, Massachusetts, solves its noise problems by using acoustical fins of RIGIDIZED perforated steel encasing an insulating material to provide sound absorption. RIGIDIZING increases sound absorption by creating slight "dishes" at perforation perimeters. Versatile RIGIDIZED METALS may be adapted to many other product applications to absorb sound, add beauty, CONSERVE CRITICAL MATERIALS, and provide structural strength. Investigate their possibilities in your requirements today.

Send for RIGIDIZED METALS IDEA HANDBOOK TODAY

Rigidized Metals Corporation

664 OHIO STREET, BUFFALO, N.Y.

BREVITY—Identify by IEN - 6519 if you write the maker

a good appliance deserves the BEST CORD

SECURITYFLEX portable cord

Tough, dependable — resistant to oil, water, abrasion, age, ozone — SECURITYFLEX* Portable Cord is a reliable partner for any electrical appliance. So rugged it's used on mine drills.

Resists kinking. Flexes indefinitely. Don't risk your product's performance by using poor cord. SECURITYFLEX is made by Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

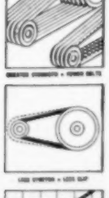
the right cable for the job

ANACONDA® Wire and Cable

BREVITY—Identify by IEN - 6520 if you write the maker

BROWNING STEEL CABLE GRIPBELTS

MORE Strength • LESS Stretch



Browning Steel Cable Gripbelts are much stronger than ordinary belts. They will safely carry heavier loads with fewer belts. They will stretch less and give longer life without loss of power and efficiency.

Write FOR LIST PRICE SHEET V-163-A

BROWNING MANUFACTURING CO. INCORPORATED MAYSVILLE, KENTUCKY

BREVITY—Identify by IEN - 6521 if you write the maker

DRILLING .. Precision machine to drill pattern of holes in a sheet

Source: WALES-STRIPPIT CORP. 361 Payne Ave., North Tonawanda, N. Y.

An accurate pattern of holes can be laid out, drilled and, if necessary, reamed in a work sheet or plate positioned on the table of this new machine by operating the work and spindle-positioning controls and then by feeding the drill spindle downward. The work rides under the bridge on which the drill head slides and is secured to a slide rail at right angles with the bridge. The work rides on inset balls in the table surface to move with hand-wheel slide operation.

Scales are provided for both the work slide and the head movement on the bridge for location within $\frac{1}{64}$ in. of final. Dial indicators and measuring rods provide for final positioning on both adjustments. The drill is guided by a bushing in a vertically-adjustable guide foot in the drill-head assembly.

Work capacity is to 36 in. in width under the bridge. Work length is not a factor. Locks are provided to hold a stationary setting while each hole is being drilled. Cabinet base is fitted with slide drawers to hold tools, accessories and supplies.

BREVITY—Identify by IEN - 6522 if you write the maker

CLEANING .. Oxy-acetylene torch and attachment to clean iron castings

Source: LINDE AIR PRODUCTS CO. 30 E. 42nd St., Room 308, New York 17, N. Y.

Powder Washing is a new process that employs a special assembly of the company's Oxweld Type FSC-1 torch and an external powder-feed attachment. The torch nozzle has a large center hole through which low-velocity oxygen is discharged. Around this hole is a ring of 10 preheat-flame ports. The attachment employs a flat discharge tube above the nozzle with connection back to a pneumatic dispenser which delivers the powder under air pressure at about 6 lb. per sq. in. through a separate hose.

The iron-rich powder feeds through the preheat flame into the low-velocity oxygen stream where it burns and produces super-heated liquid iron oxide. Wherever the flame is directed against a casting the metal surface is brought quickly to kindling temperature. Then it is oxidized and blown away by the oxygen stream. Sand encrustations, fins, pads, chaplets or chill nails, excess metal is removed quickly and without need for more than average operator experience.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6523 if you write the maker

SAFETY EQUIPMENT FOR ALL INDUSTRIES

"FLUD-LITE" MAGNIFIER

Fluorescent Lighting for INSPECTORS ASSEMBLY WORKERS TOOLMAKERS MACHINISTS And Others Engaged In Close Work

Floodlights the work area with scientifically focused, shadow-free fluorescent light, magnifying the work through a high quality 5" diameter lens with a focal distance of 13". Magnification two to one. Also available with auxiliary lens providing four to one magnification.

Write for Bulletin F-71

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY 2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

BREVITY—Identify by IEN - 6524 if you write the maker

LUBRICATION ECONOMY

LUBRIPLATE LUBRICANT Saves Gears and Transmissions

So says the AUTOMATIC WASHER COMPANY

"We have used LUBRIPLATE in our washing machine transmissions since 1933. Our laboratory tests as well as field experience indicate that through the use of LUBRIPLATE we reduce the wear on the gears and prolong the life of the transmission. It has been an important factor in the success of our product."

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

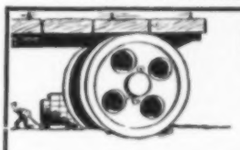
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION Fiske Brothers Refining Co. Newark 5, N. J. Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

BREVITY—Identify by IEN - 6525 if you write the maker



IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. 'Incor' 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with 'Incor'*—no plant tie-up—no time-loss!

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U.S. Pat. Off.

LONE STAR CEMENT CORPORATION

Offices: Albany • Bethlehem, Pa. • Birmingham • Boston • Chicago • Dallas Houston • Indianapolis • Kansas City, Mo. • New Orleans • New York Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

BREVITY—Identify by IEN - 6526 if you write the maker

There's a NORMA-HOFFMANN PRECISION BEARING designed to Exactly Fit the Application . . .

No matter what your bearing requirements . . . for electric motors, machine tools, household appliances, etc . . . Norma-Hoffmann can give you the *right* bearing to meet *your* particular application. These precision bearings will improve your product performance with efficient friction-free operation. Their ability to operate dependably under the toughest going means you have less maintenance problems. They are available in a wide range of types and sizes from $\frac{1}{8}$" to $22\frac{1}{2}$" bore, also metric. Write for catalog.

NORMA-HOFFMANN Precision BEARINGS BALL • ROLLER • THRUST

NORMA-HOFFMANN BEARINGS CORPORATION, Stamford, Conn.

BREVITY—Identify by IEN - 6527 if you write the maker

It's easy to learn to treat Molybdenum High Speed Steel

Data on performance, heat treatment and other authoritative facts are available in our booklet, "Molybdenum High Speed Steels".

More and more high speed steel will be of the Molybdenum types which are already giving performance equal to or better than tungsten steel, with economy in alloy content.

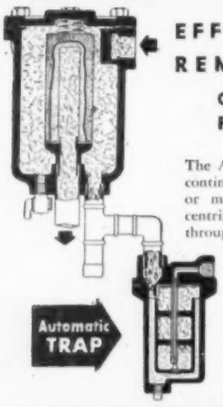
FREE—this booklet gives all the facts

Climax Molybdenum Company
500 Fifth Avenue · New York City

HS-7

BREVITY—Identify by IEN - 6528 if you write the maker

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES OIL, WATER PIPE SCALE

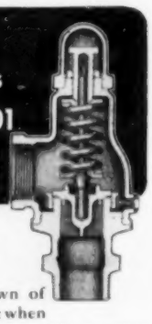
The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

BREVITY—Identify by IEN - 6529 if you write the maker

protect against excess pressures use CRANE No. 2601 BRASS RELIEF VALVES



PRESSURE RANGE: 5 to 250 pounds steam, water, or oil at 400° F. Max. Temp.; 250 to 300 pounds water or oil at 100° F. SIZES: ⅜ to 2-in.

You can prevent costly breakdown of pumps, presses, and other equipment when Crane Brass Relief Valves protect your piping systems against excess pressures. For these precision-built Crane valves react instantly when pressure in pipe lines exceeds a pre-set limit.

True seating is assured by long bottom guide on the disc. Asbestos packing in stuffing box effectively seals body and prevents leakage around adjusting screw. Sizes ½-inch and larger have blow-back regulating rings.

SEE YOUR NO. 49 CRANE CATALOG

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Equipment for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

INDUSTRIAL EQUIPMENT NEWS

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461 Eighth Avenue, New York 1, N. Y.

What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 19 JULY, 1951 No. 7

I'm the Salesman

I'm the salesman to whom your recent inquiry was forwarded. It came through Industrial Equipment News to my home office. I received it from there and have taken it as an opportunity to call on you to see where I can be of service.

You did not ask for a salesman? You are not ready to consider purchase? You expected information in printed form through the mails for your file? You do not want to waste your time or mine now?

That's all right by me. I do hope though that you will give me your next two minutes so I can tell you just why I called. Two minutes, all right? Here I come—

The product I'm selling is no gadget. It requires no high-pressure selling. It does call for careful study, understanding, selection of the numerous forms available. A buyer can go wrong by looking only at the product instead of relating it to the function it serves and the supporting facilities surrounding it.

It can do certain things standing alone. Give it the opportunity to work under most favorable conditions and its utility will treble easily. There is where I am vitally interested and where I can really help.

I make my income selling my product. Fact is I make nothing until I have received your purchase order. At the same time experience has taught me that the buyer and I both profit most if we go at the whole problem thoughtfully together. Then all the important questions will be asked and answered. Then I can make suggestions based on the specialist training I have received in other plants under similar conditions.

If I wait to call on you until after you are ready to sign a purchase order I will have neglected my duty, lost opportunity to help in the formative stages of your problem. I would be an ordinary order taker, not your sales engineer as I like to be known. There you have one of two reasons for my call today.

Other salesmen will be quick to understand the second reason. It is compounded of the fact that selling requires both calling on the buyers and selection of the buyers on whom to call. Don't let anyone tell you it is an easy choice for even an experienced salesman.

I have a prospect list. Your name is on it with several hundred others. I have called on you before, as you know. I have your plant layout pretty well in mind. I have developed several ideas on things you can do with my product if you can apply it along lines I have laid out and can show you at any time.

Your inquiry gives me an opportunity to ask if you are ready to listen. I'm particularly pleased that it came through Industrial Equipment News. My experience has been that plant men who work through IEN know their business, are serious in their search for reliable information on the best facilities.

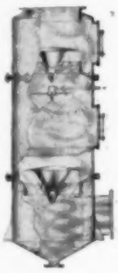
There's my two-minute story. I'm here to help if I can. You can take action now on whatever we work out or put it all in your file against the day you are ready.

W. E. Irish

BREVITY—Identify by IEN - 6530 if you write the maker

HIGH EFFICIENCY **DUST CONTROL** with DUCON WASHERS

- Afford the most economical and efficient control and wet suppression of dust and fumes because of superior design and unique features.

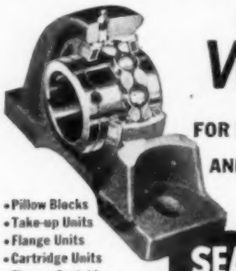


- In addition to use for washing of air and gases, DUCON Centrifugal-Wash Collectors are ideal for many other applications, such as: gas absorption, condensation of solvents, heat exchange, distillation and chemical reactions.
- Assure collecting efficiency up to 99%. No secondary dust problem. No moving parts, therefore practically no maintenance. Retains constant air capacity. Eliminates fire and explosion hazards. Can be used in high temperatures.
- Construction steel plate, electrically welded. Easy accessibility to all internal parts. Built for simplified installation.

Write for descriptive, illustrated Bulletin CW48-1.

The DUCON Co.
MINEOLA, N. Y.

BREVITY—Identify by IEN - 6531 if you write the maker



Here's WHY!

FOR LASTING SERVICE AND LOW MAINTENANCE SPECIFY

- Pillow Blocks
- Take-up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

SEALMASTER BALL BEARING UNITS

Only **SEALMASTERS combine these features:**

Permanent Seal—Patented centrifugal seals exclude dirt and retain lubricant.

Self-Aligning—Misalignment of shaft in any direction cannot distort the seals.

No Housing Wear—Patented locking pin prevents rotation of outer race—positions unit for relubrication.

Pre-Lubricated—Each SealMaster is shipped with lubricant sealed in—ready for use.

Write today for a copy of Catalog No. 845

BEARING DIVISION
STEPHEN S-ADAMSON MFG. CO.
DEL RIO AVENUE AURORA, ILLINOIS · LOS ANGELES, CALIF. · BELLEVILLE, ONT.

Factory Representatives and Dealers in All Principal Cities

BREVITY—Identify by IEN - 6532 if you write the maker

6 REASONS why American industry specifies WIGGINS

- ★ Craftsmanship
- ★ Integrity
- ★ Uniformity
- ★ Low pressure drop
- ★ Leak proof seal
- ★ Engineering Service

Over many years, Inst-O-Matic has acquired a value far above its mere mechanical qualities, a value proved by its acceptance throughout industry and in all branches of the armed services.

EQUIPMENT MANUFACTURERS

Users' experiences prove conclusively that this design stands up longer under extreme pressure and vibration, and rarely requires replacement. Inquire today.

Basic Sizes: ¼", ½", ¾"; intermediate sizes where needed. Unconditionally guaranteed leak proof from zero to maximum recommended pressure.

Wiggins INST-O-MATIC COUPLINGS

For proof of performance, write for name of nearest representative to E. B. WIGGINS OIL TOOL CO., INC., 3424 S. Olympic Blvd., Los Angeles 23, Calif.

BREVITY—Identify by IEN - 6533 if you write the maker

It's NEW! It's DIFFERENT! It's BETTER!

LOVEJOY TILTING MOTOR BASE

Only $6.00 each

This new, low price tilting motor base is for fractional motors up to ¾ horsepower. Maintain correct belt tension or, when used with a variable speed pulley, desired speed is obtained simply by the handle screw adjustment. Adjustments may be made while the motor is running. The Lovejoy Tilting Motor Base is adjustable in both width and length to accommodate all sizes and types of fractional horsepower motors. You can't afford to be without this sturdy adjustable motor base. ORDER YOURS TODAY!

Send for complete information on the entire Lovejoy line.

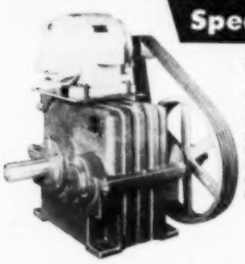
LOVEJOY FLEXIBLE COUPLING CO.

5014 W. Lake Street, Chicago 44, Illinois

Also Mfrs. Lovejoy Flexible Couplings, Variable Speed Transmissions and Universal Joints.

BREVITY—Identify by IEN - 6534 if you write the maker

Step Down Motor Speeds To Job Needs WITH . . . S-A SACO Speed Reducers



It's no trick to convert your standard high speed motors to slower operation. Compact, efficient Saco Speed Reducers provide a wide range of output speeds—reductions up to 60 to 1. Almost any full speed motor can be mounted on top or end. Save floor space and maintenance costs.

Write for Saco Catalog 643

Five sizes to choose from. Silent, steel helical gears—totally enclosed—operate in oil.

STEPHEN S-A ADAMSON Mfg. Co.

Televel Bin Level Controls · SealMaster Ball Bearings · Saco Speed Reducers · Car Loaders · Car Pullers · Winches

231 RIDGEWAY AVE., AURORA, ILL.

BREVITY—Identify by IEN - 6535 if you write the maker

Amazing FLASH BOX OPENER

Opens Any Carton Quicker . . . Cleaner

Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price $1.75

FLASH BOX OPENER CO., Inc.

52 W. Houston St. • New York 12, N. Y.

BREVITY—Identify by IEN - 6536 if you write the maker

BOY BENTLEY . . Junior addition to IEN's Anita-Lawrence sales division

Source: LAWRENCE FREDERICK BENTLEY & CO. 309 East 52nd Street, New York 22, N. Y.

New Product Bulletin—Anita doing fine, Lawrence completely exhausted at 10:23 A. M., June 5, 1951, in Doctor's Hospital, New York City, on arrival of Lawrence Frederick Bentley, III, weighing 7.5 lb., measuring 20 in. overall—blond, big, beautiful.

Pop Bentley, upon recovery, declares event is Junior stock issue comprising one share in future America, designed primarily to start dividend returns on his investment on or about 1975, providing this new Junior product does not, in the meantime, meet another as sweet as his mother with whom to marry and on whom to bestow all of his worldly possessions. Pop says it is a gamble and invites suggestions aimed to help him secure his interests.

BREVITY—Identify by IEN - 6537 if you write the maker

PROTECTING . . Sweatband made of cotton backed expanded gauze

Source: GENERAL SCIENTIFIC EQUIPMENT CO. 2785 W. Huntingdon St., Philadelphia 32, Pa.

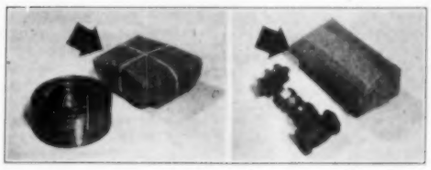
For workers in hot locations

New sweatband ties in place on a worker's forehead to absorb perspiration. Weight is negligible. A box of 250 lists at a little over $8. A case containing four boxes lists at $25. The band can be washed several times.

BREVITY—Identify by IEN - 6538 if you write the maker

PACKAGING . . Corrugated paper to wrap and cushion finished products

Source: SHELTON MFG. CO. 589-93 Ferry St., Newark 6, N. J.



Shellerease trade names new corrugated kraft paper in which the corrugations carry minute scoring marks. These marks permit folding the paper across the corrugations as well as in line with them so any irregularly-shaped object can be packaged neatly and securely.

The paper is supplied in stock rolls to 72 in. in width by 250 ft. in length. It also is available in sheets cut to order. Four weights are 35, 55, 70 and 100-lb. basis. The closure can be secured with pressure-sealing tape, twine, gummed tape, staples, strapping, as desired.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6539 if you write the maker

TROMBETTA SOLENOID CO.

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS RECIPROMOTORS AND SEMOTORS

BREVITY—Identify by IEN - 6540 if you write the maker

THE EASY SOLUTION TO TOUGH HEATING JOBS

CHROMALOX Electric HEATING UNITS

15,000 TYPES, SIZES & RATINGS TO MEET YOUR HEATING NEEDS

Chromalox Electric Heaters are the low cost answer to heating liquids, gases, viscous fluids, dies, molds, platens, moving parts and literally hundreds of other jobs requiring dependable, accurate, easily controlled heat. If you are not familiar with the many time and money saving applications possible with Chromalox Electric Heaters, get the complete details on how these compact units can fit into your plant operations.

learn more about electric HEAT

Write for the illustrated booklet "100 Ways to Apply Electric Heat."

4B-15

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.

See Chromalox Circulation Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 6541 if you write the maker

You can NOW speed deburring, chamfering, pointing, facing, center-drilling, and reaming operations with

PINES END-FINISHING MACHINES

Handle broad range of rod, tube, and pipe end-finishing work with speed and precision. Exclusive chuck feature clamps and feeds work to cutters in one motion. Operator always has one hand free for stock handling. Designed with quick interchangeable tool holders and chuck inserts. 8-speed sheave—760 to 5920 r.p.m., hardened and ground spindle, grease-sealed precision bearings. Automatic swing-type stock stop assures fast, accurate positioning. Entire unit is portable, takes up small space, handles stock diameters up to 2". Max. feed is 1½". Larger sizes up to 5" capacity available. **Typical production:** 800 tube ends per hour.

(Above) Pines 1" High Production End Finishing Machine equipped with non-controlled air operating cylinder. Stands, feed, and return cycle is automatic. Operator has both hands free for stock handling. Supplied similar to hand-operated unit.

Write for Free Bulletin

Write today for free bulletin and learn how these machines are built to save time on a wide range of work.

PINES ENGINEERING CO., Inc.

Specialists in Tube Fabricating Equipment

630 WALNUT • AURORA, ILLINOIS

BREVITY—Identify by IEN - 6542 if you write the maker

Easy On — Easy Off AND EASY TO ALIGN

YOU CAN MOUNT a *"Magic-Grip"* sheave faster than any other sheave you can buy . . . and demount it just as fast. It runs true, will not slip or jam. And it comes off easily without hammering, forcing, or distortion.

To mount, simply slide sheave on shaft and tighten three screws. No alignment problem. To demount, use screws to break the tapered bushing grip. Sheave slides right off. Best of all they cost no more than ordinary sheaves. Even if you don't change sheaves often, it still pays to buy *Magic-Grip* sheaves for every drive.

Get complete facts on how *Magic-Grip* sheaves can save you money by calling your Allis-Chalmers Authorized Dealer or Sales Office, or write for booklet 6051. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3238

Magic-Grip is an Allis-Chalmers trademark.

ALLIS-CHALMERS

BREVITY—Identify by IEN - 6543 if you write the maker

METZGAR FLOOR —TO— FLOOR "Power Helper"

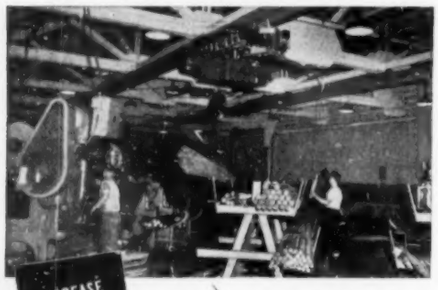
SAVED $3,044 Over Cost of Elevator

WRITE— for Suggestion. Give height, floor to floor and horizontal space available—Also maximum unit load.

- Maintenance — Zero
- Operating Cost — Negligible
- 500% Faster Loading & Unloading
- Safer than Elevator
- Flexible, with 2-Way Controls
- Prompt Delivery — Easy Installation

METZGAR CO.
417 Douglas, N. W.
GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN - 6544 if you write the maker



INCREASE PRODUCTION NOW... WITH Present Plant Manpower / Present Plant Space

Mighty valuable ceiling space can be put to work—without increasing your plant capacities and without increasing plant manpower.

An American MonoRail engineer will show you how you can use your "air rights." With thousands of overhead handling installations from which to draw, each with many money and timesaving advantages, it will pay you to investigate American MonoRail Overhead Handling Systems. Send for bulletin C-1.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN - 6545 if you write the maker

JUST PRINTED!

NEW SLIDE CHART MAKES HEAT TREATING EASIER

Enables you to find at a glance this heat treating information on Carpenter Matched Tool and Die Steels:

- Forging heat
- Normalizing heat
- Annealing treatment
- Hardening treatment
- Drawing ranges
- Effect of drawing temperature on hardness

Gives new, valuable data on speed of heating with 2 vital rules for better results, tips on quenching in water, brine, oil and air, estimating oxidizing atmospheres, heating time, etc. A "must" to help every toolmaker and heat treater get better results, today. Return coupon now for free, easy-to-use slide chart.

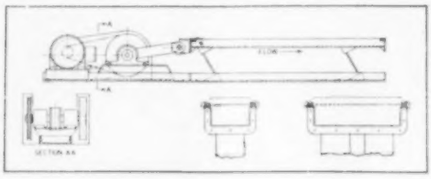
THE CARPENTER STEEL COMPANY
151 W. Bern Street • Reading, Pa.
Please rush to me at no obligation, new Carpenter Guide to *Simplified* Tool Steel Heat Treating.

NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
(PLEASE PRINT)

BREVITY—Identify by IEN - 6546 if you write the maker

CONVEYING . . Vibrating trough for granular materials, metal chips

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.



Flexmount trade names new vibrating or oscillating-trough conveyor to handle chemicals, foodstuffs, where the material must be protected against contamination or corrosion and also to handle materials such as hot, sharp, dry or oily metal chips and turnings to a point of removal as they originate in production equipment. The trough is a channel-shaped unit, 4 in. in depth and 8, 12, 18 or 24 in. in standard width. It can be made of carbon steel, stainless steel or other metals as specified. It can be left open at the top or equipped with a clip-on cover. Lengths can be supplied to 100 ft. in 5 and 10-ft. sections as required.

The trough is mounted on flexible leaf members which function as springs. It is driven by eccentric action with link connection, an energy-storing flywheel and with belt drive by a suitable motor. Rating is ¾ to 2 hp. depending on the size and length of the conveyor and the amount of material to be handled per unit of time.

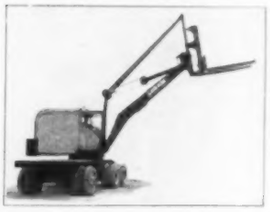
Assemblies are available with the motor at the feed or discharge end or at an intermediate position in which a forwarding conveyor is mounted to receive the discharge from the end of an initial assembly. A 2-hp. motor will handle 8 to 17 ton per hr. on a 90-ft. conveyor. The 12-in. width has capacity for 1 to 20 ton per hour based on material weighing 90 lb. per cubic foot.

Bulletin 2378, 4 pages, assembles layout drawings, illustrations and operating data. One illustration shows installation in a machine tool to remove chips from the back.

BREVITY—Identify by IEN - 6547 if you write the maker

CRANE . . Load fork attachment converts crane for utility work handling

Source: THEW SHOVEL CO.
4321 E. 28th St., Lorain, Ohio



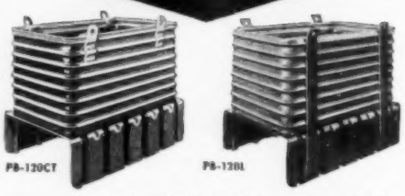
Swing-Stacker designates new assembly of the company's standard rubber-tired Lorain Type SP-414 mobile crane. The boom is equipped with a pair of 7-ft. forks assembled for vertical hydraulic lift through 116 in. with provision for rotation through 180 deg. and tilt through about 10 degrees. With both the forks and the boom at the top of their movements, distance to the ground from the fork measures 27 feet.

A load can be picked up, elevated and revolved through a complete circle or carried with the crane's travel movement at speeds to 7 miles per hour. Load capacity is 2½ ton. Control for all movements centers at the operator's position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6548 if you write the maker

TRUSCON has the MATERIALS HANDLING EQUIPMENT to fit your needs!



PB-120CT PB-120L

The production line keeps moving, *on schedule*, when parts and materials are stored and moved in Truscon Steel Boxes and Skids. Truscon materials handling equipment assures efficient storage and movement of parts, and makes sure man-hours are used for valuable production instead of wasteful waiting.
To find the Truscon Steel Boxes and Skids to meet your needs, write for free, illustrated catalog.
TRUSCON STEEL COMPANY, Pressed Steel Division
6100 Truscon Ave., Cleveland 4, Ohio
Subsidiary of Republic Steel Corporation

TRUSCON STEEL BOXES AND SKID PLATFORMS

BREVITY—Identify by IEN - 6549 if you write the maker

di-acro PUNCH

NEW DOUBLE PURPOSE PRESS

Available in two sizes 6" and 12" throat depth

Now you can punch holes of various shapes as large as 4" diameter in 16 gauge steel—also blank, draw, emboss, form,—all with the new DI-ACRO Punch. It is ideal for both experimental and production work.

The precision ground triangular ram of this double purpose press prevents punch head from turning, assuring perfect alignment at all times.

A Turret Stripper of exclusive DI-ACRO design automatically strips material from punches of all shapes. Roller Bearing cam action develops 4-ton pressure with minimum effort. Adjustable gauges assure exact location of holes.

Send for "DIE-LESS DUPLICATING" *Catalog*
Gives the full story of the DI-ACRO Punch, and also DI-ACRO Benders, Brakes, Shears, Rod Parters, Notchers, as well as the new DI-ACRO Vari-O-Speed Powershear and Hydra-Power Bender.

DI-ACRO is pronounced "DIE-ACK-RO"

DI-ACRO O'NEIL-IRWIN MFG. CO.
318 EIGHTH AVENUE • LAKE CITY, MINN.

BREVITY—Identify by IEN - 6550 if you write the maker

for...
any joint
any temperature
any pressure

'Bestolife Lead Seal Pipe Joint Compound seals threaded and flanged pipe connections for air, water, steam, gas, oil, ammonia, alkalis, acids and chemicals. Unaffected by vibration, contraction or expansion. Will not gall or seize. Allows easy separation of parts. Backed by twenty years of compound experience. Satisfaction unconditionally guaranteed.

See Your Supply Dealer or Write for Literature and Prices

I. H. GRANCELL
1601 E. NADEAU ST., LOS ANGELES 1, CALIFORNIA

BREVITY—Identify by IEN - 6551 if you write the maker

A Better STRAINER

- *BODY*—is cadmium-plated for protection against corrosion.
- *SCREEN*—High-grade woven monel wire basket.
- *SCREENCAP*—Easily removed. Machined face and spark-plug-type gasket provide tight joint. Cap and screen come out together. Screen automatically aligns when replaced.
- *SIX SIZES*, ½" to 2", for pressures up to 600 lbs. Reasonably priced.

- Many Thousands in Service
- Sold by nearly 150 Mill Supply Houses

See Your Supply House or Send for Bulletin S-201

YARNALL-WARING COMPANY
122 Mermaid Ave., Philadelphia 18, Pa.

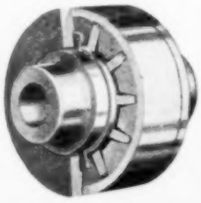
YARWAY STRAINERS

BREVITY—Identify by IEN - 6552 if you write the maker

KUSHION-TORK
WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that cause wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings, and productive machinery. No other coupling is like the Kanti-Lever: It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery. Send for Bulletin No. 28-N.

Kanti-Lever Couplings



4,000,000 h. p. in Use

MRFS. OF SECTIONAL STOCK RACKS

BROWN ENGINEERING CO.
122 NORTH 3RD ST. READING, PENNA.

BREVITY—Identify by IEN - 6553 if you write the maker

EXTENDS TO ANY DESIRED HEIGHT IN A FEW MINUTES

Always Ready for Work
- No-Erection Required
- No Loose Parts

HI-LIFT EXTENSION SCAFFOLD

HI-LIFT Extension Scaffolds can be extended from a six-foot ladder to a 30-foot scaffold in less than 5 minutes . . . hand or electrically operated. Comes to you ready for work—no erection required, no loose parts. Built to meet individual requirements. Ideal for Painting, Lighting, Cleaning, and all overhead maintenance. Pays for itself in time and labor saving.

Also makers of
HI-LIFT MARQUEE SERVICER
ATLAS ONE-MAN TRUCK LOADER

Write for Full Information

ATLAS INDUSTRIAL CORP.
847 39th Street, Brooklyn 32, N. Y.

BREVITY—Identify by IEN - 6554 if you write the maker

Found!

A FLOOR THAT TAKES THE POUND...POUND...POUND!

PABCO MASTIPAVE

AMERICA'S NO. 1 LOW-COST LONG-LIFE FLOOR COVERING

"After years of using Pabco Mastipave throughout our large production plant on cement and wood floors, we have found it to be a most practical floor covering for heavy duty usage," says Bruce E. Merritt, Purchasing Agent, Charles R. Hadley Company, printers and publishers.

"We have greatly decreased accident hazards by placing Mastipave on stairways. Mastipave withstands heavy trucking, and is easy to maintain."

TILE

SEND NOW FOR THE FULL STORY OF MASTIPAVE!

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19
(Mail to Dept. E, nearest office)

GENTLEMEN: Without cost or obligation to me, please send folder, "Every Building Needs Pabco Mastipave."

NAME_____
ADDRESS_____
CITY_____ STATE_____

BREVITY—Identify by IEN - 6555 if you write the maker

DRIVE . . Speed reducer mounts on driven shaft, rates 40 hp.

Source: AMERICAN PULLEY CO.
4244 Wissahickon Ave., Philadelphia 29, Pa.

No. 6 identifies new size in the company's line of shaft-mounting speed reducers, previously described IEN-8636-40. The unit extends rating from an approximate previous 30 hp. to 40 hp. in the new assembly. Nominal reduction through gears in the housing is 13 to 1. Assembly is on a driven shaft for the bored-out hub on the output side. The shaft on the input side is in line with the hub and mounts a sheave for connection to a driving motor.

The housing is restrained from rotating to make the drive operative. The restraining element can be supplied in a releasing design to let go in the event of overload and to be re-engaged manually without need for tools when the overload is removed.

Split tapered bushings are available to obtain a desired fit between the hub and the output shaft on a machine. Actual ratio between the motor and the driven machine can be changed by selection of sheaves on the input side and also on the motor shaft, for speed below 110 rpm. Diameter measured over the housing is 23½ inches. Axial length between the hub face and the input shaft end is 19½ inches. Maximum hub bore is 3$\frac{13}{16}$ in. and input shaft diameter is 22$\frac{7}{16}$ inches. Input shaft extends 4$\frac{11}{16}$ inches.

BREVITY—Identify by IEN - 6556 if you write the maker

TRACTOR . . Engine driven unit has torque converter, rates 6-ton

Source: BUDA CO.
15401 S. Commercial St., Harvey, Ill.

Model HA-120 is a new unit in the company's line of Shop Mule tractors with standard drawbar pull rating at 6 ton. This can be increased to 6½ ton by adding wheel weights. The drive is characterized by its use of a torque converter mounted between a dry-plate clutch and the selective transmission which provides four speeds forward and one in reverse. The converter is a single-stage three-element unit consisting of impeller, runner and reactor. Torque multiplication is 2.2 to 1 at stall speed. The unit eliminates shock on the transmission and other drive parts. It applies full engine power for start under load, enables the operator to "inch."

Standard assembly includes the company's six-cylinder 74-hp. gasoline engine. A diesel engine, also built by the company, can be specified. Equipment includes 4-wheel hydraulic brakes, a 17-gal. Protectoseal fuel tank, adjustable seat and dual pneumatic drive tires. Detail illustrated data are contained in 4-page Bulletin 1545.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6557 if you write the maker

Shell PRODUCTION LINES CAN JAM TOO!

Furnished in several sizes and styles, Logan Concave Rolls speed manufacturing and assembly.

Jamming wastes time and costs money! Logan Concave Rolls, available in sizes to handle 3" shells and up, send them smoothly and evenly on their way. (*a*) Shape of Logan rolls eliminates lateral rolling. (*b*) Neoprene covered rolls for use after copper band is applied to shells. (*c*) Straight and curved sections available. (*d*) Suitable power conveyor available when required.

NOTE: Smaller sizes of shells usually handled on pallets on conventional roller conveyor.

Write today for further information or for the nearest Logan Engineer to call.

Logan Conveyors

LOGAN CO., 200 CABEL ST. • LOUISVILLE 6, KY.

BREVITY—Identify by IEN - 6558 if you write the maker

P.A.T.'50 is pyrometric control for increasing furnace output

With record demands on production, new P.A.T.'50 Control comes at the ideal time to help increase furnace output. Here's why:

New P.A.T.'50 Control acts on the *speed* of temperature swings as well as their size and permanence. The faster the swings, the further P.A.T.'50 moves the fuel valve. When this movement, called "Rate Action," begins to head off changes, the control backs away and rapidly brings temperature in line.

Only electric positioning control with rate action, P.A.T.'50 can be added to earlier P.A.T. controls by changing control units (center picture) and making slight changes in the controller.

For details, write us at 4905 Stenton Ave., Philadelphia 44, Penna.

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES
3H AA NH-33(1b)

BREVITY—Identify by IEN - 6559 if you write the maker

COST-CUTTING CARRIER

Rex TableTop Conveyor Chain is known throughout industry for cutting handling costs *three* ways. *First,* its original cost is low. *Second,* the wide bearing area of specially designed sprockets assures longer, trouble-free life. *Third,* its smooth, steady operation reduces spillage, breakage and jamming to the absolute minimum.

Rex TableTop is ideal for conveying bottles, cans, packages and small parts. Our booklet containing all the details has recently been revised. Send for your copy today.

REX CHAIN BELT COMPANY — **DRIVE AND CONVEYOR CHAINS**

50-120

Chain Belt Company
1675 W. Bruce St.
Milwaukee 4, Wis.

Please send me a copy of Bulletin 50-30.

Name.....
Company.....*Dept*.....
Address.....
City.....*State*.....

BREVITY—Identify by IEN - 6560 if you write the maker

When you specify **BLAW-KNOX GRATING** you get . . .

1. Rigid One-Piece Construction, easy to install.
2. Maximum open area for light and air.
3. Easy painting—all surfaces accessible.
4. Non-slip tread due to twisted bar.
5. Self-cleaning—no sharp corners to clog.

Write for complete specifications.

BLAW-KNOX Electroforged **GRATING AND STAIR TREADS**

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

BREVITY—Identify by IEN - 6561 if you write the maker

20 and 25 year records of daily service are not uncommon for Lanco Industrial Trailers built under Lansing Company's policy of good design, select materials and skilled craftsmanship. Popular Lanco Model 795 illustrated is one of the many models available with a wide choice of wheel styles and racks. Write today for information on units that will exactly fit your trailer requirements.

LANSING CO. LANCO MATERIAL HANDLING EQUIPMENT LANSING, MICHIGAN

BREVITY—Identify by IEN - 6562 if you write the maker

BREVITY—Identify by IEN - 6563 if you write the maker

BREVITY—Identify by IEN - 6564 if you write the maker

ELEVATOR . . Hydraulic ramp levels platform with a truck floor

Source: HOHL MACHINE & CONVEYOR CO.
2667 Main St., Buffalo 14, N. Y.

New ramp applies on a shipping platform, assembling on the surface without change in the platform or special foundation. It is raised and lowered hydraulically, by hand or by motor drive to specification, for a vertical movement about the platform of 36 inches. It will follow a truck floor level up and down as the truck is unloaded or loaded. Load-handling capacity is to 10 ton. Overall dimensions are 6 ft. in width by 15 ft. in length. Weight is about 1,500 pounds.

BREVITY—Identify by IEN - 6565 if you write the maker

PLASTIC . . Thermosetting material cures in seconds at 300 deg. F.

Source: LIBBEY-OWENS-FORD GLASS CO.
2114 Sylvan Ave., Toledo 6, Ohio

Companion to No. 411 and No. 420

Plaskon alkyd No. 422 designates a third type of the quick-curing molding material, previously described IEN-11867-48. The new material is available in granular form. It is a flame-resistant compound that has ability to retain its electrical properties on exposure to high humidities and temperature and to quickly regain them following their loss after periods of immersion in water. It is intended for molding on self-contained automatic equipment that can operate on the fast curing rates. It is listed as self extinguishing under ASTM and Underwriters' Laboratories tests.

BREVITY—Identify by IEN - 6566 if you write the maker

DOOR . . Counterbalanced cast iron to close opening into a safety vault

Source: E. H. WACHS CO.
1523-27 N. Dayton St., Chicago 22, Ill.

New door is hinged in a cast-iron frame to provide a 30-in. square opening into a safety vault. It is connected by linkage to a counterbalance so one man can open and close it without undue effort. Bearing points are equipped with Oilite bronze bushings. The door can be opened from the inside. Construction includes a tamper-proof lock that requires a key handle for release. In open position, the counterweights act as a holding element in the same manner as when the door is closed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6567 if you write the maker

BREVITY—Identify by IEN - 6568 if you write the maker

Precision plastics in small lots are now available at the lowest possible die mold cost. This new method is primarily for pilot runs in the production of 100 to 5000 small precision plastic moldings for experimental and other purposes where conventional type die molds would be prohibitive.

Present capacity: 2-ounce size, 2 x 4 x 6"

Your inquiries are invited.

DAYTON ROGERS
Manufacturing Company
MINNEAPOLIS 7, MINNESOTA

BREVITY—Identify by IEN - 6569 if you write the maker

a remarkable new label

faster to apply...easy to remove!

The remarkable, new "active adhesive" of *Kum-Kleen* pressure-sensitive Labels seals them to the most difficult-to-label surfaces without heat or moistening...labels never curl or pop, even in temperature and humidity extremes. Because they're peelable, they may be placed on parts and equipment in the exact spot they should go. Will not mar the surface or leave a trace.

Kum-Kleen labeling pays its own way! Many users say the time and money savings of *Kum-Kleen* dispensing methods pay cost of labels!

Kum-Kleen

ADDRESS: DEPT. IEN-7
AVERY ADHESIVE LABEL CORP.
MONROVIA, CALIFORNIA

BREVITY—Identify by IEN - 6570 if you write the maker

NEW IMPREGNATED FELT GASKETING MATERIAL

PREVENTS CORROSION AND ELECTROLYSIS

SEALS AGAINST DUST, WIND & WATER

CHROME LOCK consists of a high-grade felt, impregnated with a specially formulated blend of permanently thermoplastic resins, plasticizers, inert pigments and chromates. Prevents corrosion on original installations — stops corrosion when applied to rusty joints. Chrome Lock also inhibits *electrolytic action* between dissimilar metals.

CHROME LOCK has outstanding anti-aging qualities and will not deteriorate. Tests prove Chrome Lock far outlasts rubber. Chrome Lock is the ideal seal wherever anti-corrosion, anti-electrolysis and anti-aging properties are required! Read these added features:

- ★ **EASY TO APPLY:** Pressure-sensitive adhesive back.
- ★ **ANTI-WICKING:** Non-soluble in water or saline solutions. Prevents seepage under normal pressure applications.
- ★ **LIGHTER FLANGING MATERIALS:** Low pressure compressibility reduces required bolt torque pressures.
- ★ **MANY TYPES:** (Type S) Standard Material. (Type N) Flame Resistant. Conforms to Bu.Ships Spec. 53F8. (Type OS) Oil Resistant. Used wherever S.A.E. 10-30 oils are present.
- ★ **MANY SIZES:** Thicknesses of 1/64", 1/32", 1/16", 1/8" and 1/4". Widths from 1/4" to 60".
- ★ **CUT GASKETS:** Made to your specifications.
- ★ **NATIONWIDE SERVICE:** Sales engineers in all principal cities.

Write on your company letterhead for new, 6 page Engineering Folder No. SP-1051

Manufactured by Products Research Company
SPRING PACKING CORPORATION
332 S. MICHIGAN AVE. • CHICAGO 4, ILLINOIS

BREVITY—Identify by IEN - 6571 if you write the maker

THIS P-K SCREW SAVES UP TO 50% IN ASSEMBLY WORK-HOURS

cuts thread as it's turned in

AVOIDS

Tapping
Bolting
Riveting
Inserts in Plastics

ADDS

Fastening Strength

SAVES

Time and Trouble in Millions of Applications

P-K TYPE F
Hardened SELF-TAPPING SCREW
One of six major types for every metal and plastic assembly. For details, write Parker-Kalon, 200 Varick St., New York 14, N. Y.

Call in a P-K Assembly Engineer
See why industry's fastening-wise leaders say —
YOU'RE O.K. WITH P-K® — THE ORIGINAL
PARKER-KALON SELF-TAPPING SCREWS

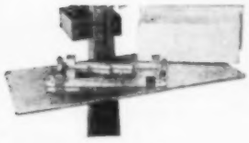
AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

BREVITY—Identify by IEN - 6572 if you write the maker

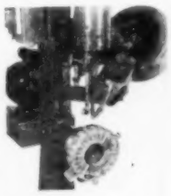
ADD "Jet Plane Speed"
To Your ASSEMBLY JOBS
With These Versatile
DETROIT POWER SCREWDRIVERS

Banish slow, dragging hand methods that eat into your profits. Drive screws with almost incredible speed by using Detroit Power Screwdrivers, the outstanding hopper-fed machines that pay for themselves quickly, then pay big dividends in stepped-up production and lower labor costs—they drive screws as fast as one a second, doing a perfect job without damage to heads or threads . . . all types of screws . . . driven to uniform tension. So, if your assemblies are fastened with screws, take off now to record-breaking assembly speed by adopting Detroit Power Screwdrivers. Let them prove their indispensability in your plant.

3 SIZES
to drive screws from No. 2 to ½". Model A pictured. Capacity No. 2 to No. 6 screws.



Driving twenty screws in cabinet side shields in 57 seconds.



Vertical type, manually operated fixture assembling screws around outer periphery of cylindrical die casting.

Send for further details, also information about D.P.S. Motorized Hopper Units, Nut Drivers and Special Assembling Machines.

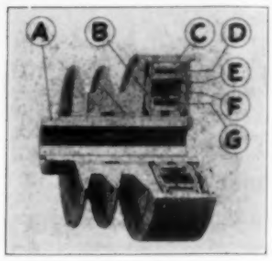
1926 Our 25th ANNIVERSARY 1951

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

BREVITY—Identify by IEN - 6574 if you write the maker

DRIVE . . Friction clutch, mercury actuated, to 15 hp. at 1,500 rpm.

Source: MERCURY CLUTCH DIVISION
1203 Camden Ave. S. W., Canton 6, Ohio



New information has been supplied covering current construction of the company's mercury clutch previously described IEN-4811-51. Internal assembly in one of the standard units employing a driven sheave on a driving hub is shown in the section view.

The hub A assembles on the driving shaft and carries the mercury-actuated clutch mechanism **B** near one end. The outer circumference of this mechanism is made up of a set of friction segments **C** mounted on spring-restrained shoes **D** to ride on the rim of a C-shaped synthetic rubber gland **E**. The flanges of this gland face inward toward the hub and the gland acts as a resilient sealing member inside two formed-steel side plates. Inside the gland itself is a filler ring **F**, solid except for radial holes at intervals around its circumference. Inside this ring is a chamber **G** containing the mercury.

The clutch mechanism is rotated by the hub and resulting centrifugal action drives the mercury out through the radial holes to apply under the friction shoes and engage the inner surface of the driven sheave. This sheave rides free on the hub on suitable bearings. It rotates with the hub when the friction segments are held outward by hydraulic pressure from the mercury. The pressure ceases when hub rotation stops. Then the restraining springs retract the segments so the clutch is disengaged.

BREVITY—Identify by IEN - 6575 if you write the maker

PACKAGING . . Foamed plastic to cushion light and fragile products

Source: BAKELITE DIVISION
30 E. 42nd St., Room 1502, New York 17, N. Y.

Company will provide technical assistance

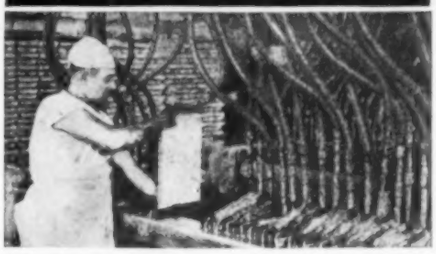
Phenolic resin and acidic catalysts, both in liquid form, have been developed by the company to produce a new cushioning material, foamed phenolic resin, in which lightweight and fragile products can be protected for both storage and transit. The company supplies the materials in various formulations to produce a density ranging from 0.3 to 1.0 lb. per cu. ft. with corresponding compressive strength ranging from 0.3 to 2 lb. per square inch. The resins and the catalysts are kept separate until a supply of the foamed material is to be made.

Actual foaming is carried out by the user who mixes the two liquids in specified amounts and then pours them into a simple form where the foaming action takes place. Five gallons of foamable resin have been converted into a 100 cu. ft. block of foam, within 2 min. after addition of the catalyst, to produce a block having a density of about 0.3 lb. per cubic foot. These blocks can be cut into required sizes and shapes after they have been allowed to cure for a short time. The material remains useful at temperatures to 250 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6576 if you write the maker

HANDLING ACIDS?



HERE'S THE ANSWER!

Specify Hewitt-Robins Monarch brand Acid Hose . . . it does a better job.

Its specially compounded rubber inner tube safely carries arsenic, citric, gallic, hydrochloric, phosphoric and tannic acids in *any* concentration . . . most other acids and alkalies up to half strength.

For concentrations up to 50%—except sulphuric, tannic and phosphoric acid—the right hose is Monarch Acid Suction. And for pinch valve service on acid discharge lines, it's Monarch Acid Pinch Valve Hose.

For full details, write Hewitt Rubber Division, 240 Kensington Ave., Buffalo 5, N. Y.

HEWITT-ROBINS ACID HOSE

HEWITT-ROBINS HR INCORPORATED

BREVITY—Identify by IEN - 6577 if you write the maker

Calling all users of Speed Reducers!

Get the new Cleveland Book FREE

Bulletin 130 gives rating tables, dimensions and other data you need in selecting the right sizes in standard worm-gear speed reducers. Ask for your copy.

New bulletins on other types of Cleveland worm gear drives and worm-gear sets also available. Outline your needs. The Cleveland Worm & Gear Co., 3258 E. 80th St., Cleveland 4, Ohio.

CLEVELAND Worm Gear Speed Reducers

BREVITY—Identify by IEN - 6578 if you write the maker

How to save Labor and Money by Centralizing Lubrication

FOR more than 20 years, Farval has been saving manpower and money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves 4 ways: It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, two main supply lines and a measuring valve for each bearing.

Bulletin 25 gives you the facts and figures to apply to your own lubrication problems. The Farval Corporation, 3258 East 80th St., Cleveland 4, Ohio.

Write for FREE Bulletin 25

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

BREVITY—Identify by IEN - 6579 if you write the maker

STOP DUSTS

. . . from Any Dust Source

IMMEDIATELY . . . WITH DUSTKOP

Available from Stock . . . 22 Standard Models Pretested . . . 300 to 10,050 cfm.

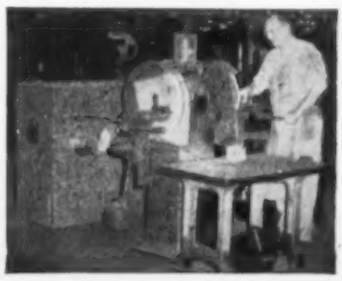
for

Surface, Tool, Cutter Grinders; Polishers and Buffers; Abrasive Belts and Discs; Woodworking and Plastic Industry Equipment . . . DUSTKOPS collect almost *all* kinds of industrial dusts.

Ask for Catalog 605-2. Describe dust problem for recommendation by return mail—no obligation.

Aget-Detroit Co., 401 Main St., Ann Arbor, Mich.

That's a Model 1150; takes all the dust from two 18" wheels. Same unit would handle dust from 3 surface grinders.



BREVITY—Identify by IEN - 6580 if you write the maker

There's No Guesswork When You Use

SYNTRON

"Vibrating"

TEST SIEVE SHAKERS

—they'll give you fast, efficient sizing of test samples.

- 110-60 AC Operation.
- Use standard 8" Screen Scale Testing Sieves.
- Controlled electromagnetic vibration —no motors, pulleys, etc.
- A reset timer for accurately timed test periods.

Write for Free Description Bulletin

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 6581 if you write the maker

Ceiling Mounted-Sidewall Mounted

or in normal horizontal position

Wagner STEEL FRAME MOTORS *are Drip Proof*

and... they're *proved* **by years of service**

Here's an open-type general purpose motor that's completely drip-proof in any horizontal position, in frames 326 and smaller, because there are no openings in the frame and the endplates can be rotated 90° or 180° for drip-proof installation on walls or ceiling.

Wagner steel-frame motors are available with either sleeve or *ball bearings which may be relubricated*. The motor frames are formed of heavy rolled steel, shaped to accurately center the stator core and to provide passages for ample ventilation. An internal fan moves a large volume of cooling air through these passages to carry off heat from all parts of the motor.

Wagner Steel-Frame Motors are available in electrical types to meet most industrial requirements. Bulletin MU-185 gives full information. Write for your copy.

Wagner Electric Corporation 1891 1951

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

BREVITY—Identify by IEN - 6582 if you write the maker

MEN SCARCE?

2 BIN-DICATORS OFTEN RELEASE ONE MAN FOR OTHER WORK

BIN-FLO AERATOR UNITS KEEP BULK MATERIALS MOVING

BIN-DICATORS indicate level of materials in bins, silos, hoppers, chutes, etc., and report overfeed, choking, underfeed, almost full, almost empty, etc., to central control point by visible or audible signals. Also, automatically control operation of machinery as indicated by any of above conditions.

Always on the job—and doing it. Low first cost; negligible operating cost. Used on over 100 materials. Fully guaranteed. Write for free book.

BIN-FLO Aerator Units in bins, hoppers, chutes use low pressure air to keep materials moving at points of restricted flow.

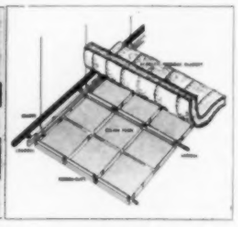
NEW 20 PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-B Kercheval • Detroit 15, Mich.

BREVITY—Identify by IEN - 6583 if you write the maker

HEATING . . Radiant ceiling also cools the air and absorbs sound

Source: BURGESS-MANNING CO.
747-51 Park Ave., Libertyville, Ill.



Aluminum trays with perforated faces assemble on channels suspended from the ceiling to form panels from wall to wall in a room. Pipe-line headers are connected at intervals by lateral lines. Blankets of acoustic-thermal material are spread over the panels on grid supports. Hot water is directed through the two main headers to also flow through the laterals to heat the panels. Then they radiate heat uniformly distributed throughout the room.

Cold water can be employed in place of hot water for cooling effect in which case the panels absorb heat radiated from warmer room objects. The perforations in connection with the acoustic blanket provide sound-absorbing action. Radiant Ceiling is the designation. The components are available from the company in limited production at present. Installation is by local contractor with suitable facilities.

BREVITY—Identify by IEN - 6584 if you write the maker

TESTING . . Generator produces ozone for laboratory purposes

Source: WELSBACH CORP.
1500 Walnut St., Philadelphia 2, Pa.

Model T-23 is a new laboratory model in the company's line of ozone generators. It is designed to produce ozone to test its value as an oxidizing agent in various chemical processes, in destruction of phenols and cyanide in industrial waste, in reduction of taste, odors, colors in water purification. It is a companion unit to the company's larger pilot plant and production equipment which have capacities up to 120 lb. of ozone per day.

The new unit rates 2 gm. per hr. employing dry air or 4 gm. from dry oxygen based on an ozone concentration of 1 per cent by weight with dry air or 2 per cent by weight with dry oxygen. Concentration up to 6 per cent can be obtained by reduction gas flow. Operation is at 110-volt, 60-cycle ac. with input at about 50 watts.

The equipment includes a high-voltage transformer, voltage regulator, voltmeter, circuit breaker, air or oxygen regulating valve, throttling valve, pressure gage and flow meter all mounted integrally within a cabinet. The unit is wired and equipped with the required pipe. Gas and water connections can be made with laboratory tubing. The user supplies the dry air or oxygen and the required cooling water.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6585 if you write the maker

New Power-Driven

E-Z SAW Makes HARD JOBS Easy

QUICKLY, EASILY SAWS and FILES ALL METALS WOOD, PLASTICS COMPOSITION and other materials

One of the handiest multi-purpose tools made. Abolishes tiresome hand sawing and filing. Pull the trigger, E-Z Saw does the work. It's fast, effortless. Unequalled for panel notching and slotting in wood or metal. Reaches into tight places with ease. Attaches to electric or air drills, or flexible shaft. Completely portable. Top quality, durable construction. Quickly pays for itself. Write for details NOW!

E-Z WAY TOOL CO. 549 W. Washington Blvd. Chicago 6, Illinois

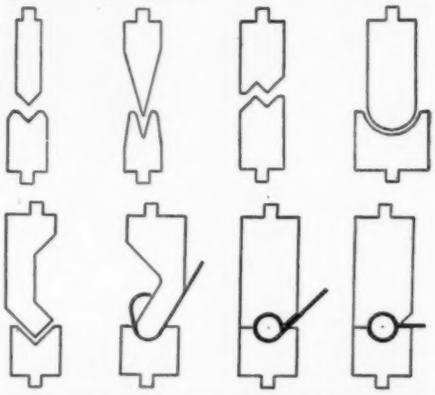
BREVITY—Identify by IEN - 6586 if you write the maker

PRESS BRAKE FORMING DIES

PROMPT DELIVERY

Any Metal—any gage—to fit any make of machine

Here are a few examples:



RAFTER MACHINE COMPANY, INC.
SINCE 1917

249 Stephens Street **Belleville 9, N. J.**

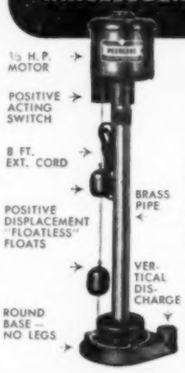
COLD ROLL FORMING MACHINES AND GANG SLITTERS

BREVITY—Identify by IEN - 6587 if you write the maker

PEERLESS AUTOMATIC SUMP PUMP

UNIQUE FLOATLESS SWITCH ASSURES DEPENDABLE OPERATION WITHOUT WATERLOGGING OR FLOAT RODS

PEERLESS PUMPS



FOR SUMPS UP TO 24", MOTOR 1/3 H.P.
CAPACITIES UP TO 2600 GALS. PER HR.

Pump base, screen, volute and impeller are all bronze. Impeller is non-clog open type. "Floatless" float switch action assures automatic operation. Discharge outlet is vertical requiring no extra fittings to connect discharge pipe. Top suction assures clean shaft bearing. Rotating shaft is stainless steel. Easily adjustable to varied limits of sump liquid level.

WRITE FOR BULLETIN B-2520.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

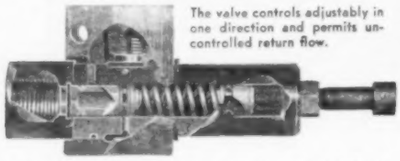
Factories: Los Angeles, California, and Indianapolis, Indiana.
Offices: New York, Atlanta, Fresno, Los Angeles, Chicago, St. Louis, Phoenix; Dallas, Plainview and Lubbock, Texas; Albuquerque, New Mexico.

BREVITY—Identify by IEN - 6588 if you write the maker

An adjustable **FLOW REGULATOR**

This newly perfected adjustable Flow Regulator holds at a constant rate even though the pressure fluctuates.

The valve controls adjustably in one direction and permits uncontrolled return flow.



The spring back piston in the housing is mounted in front of the adjustable screw. It carries a calibrated orifice; operates axially on change in inlet pressure so as to increase the throttling action.

Four sizes, 1/4, 3/8, 1/2, and 3/4 inch. Overall length, 4 1/2 to 7 1/2 inches. Adjustable over a 50% flow range. Maximum pressure is 3000 pounds.

Write for illustrated circular.

West Coast: H. E. Webb
918 North Kenilworth Avenue • Glendale, California

WATERMAN ENGINEERING *Company*
721 CUSTER AVENUE • EVANSTON, ILLINOIS

BREVITY—Identify by IEN - 6589 if you write the maker

WHEN YOU PUT A LOT OF LITTLE ONES INTO A BIG ONE — MAKE SURE IT'S A

JELLIFF DIPPING BASKET

70 years making Wire Mesh have taught us a lot about this material, its fabrication, and uses.

We make Dipping Baskets of any ductile metal, and in any size and shape your products and process require . . .

Naturally we believe we make them just a little bit better than the other fellows do — and a lot of people who turn to us regularly for their Dipping Baskets seem to agree with us.

So—for Degreasing—Pickling—Plating Anodizing — Washing — Heat Treating — or for just plain Bulk Handling or Storage of small parts in large quantities, let JELLIFF give you a no-cost no-obligation estimate for your next requirement of Dipping Baskets. Send a blueprint or specifications to Department 12.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS · LEKTROMESH · RESISTANCE WIRE · WIRE MESH PARTS · WIRE CLOTH · STRAINERS • FILTERS
SOUTHPORT CONNECTICUT

BREVITY—Identify by IEN - 6590 if you write the maker

• AUTOMATIC!
• READY TO GO!
• DEPENDABLE!

CHROMALOX *Electric* CIRCULATION HEATERS

Do your heating jobs Better and Faster

Production goes up, costs go down with Chromalox Electric Circulation Heaters. Uses include heating process kettles and tanks; generating and drying steam; preheating fuel oils; heating Dowtherm, Aroclor, Prestone, etc.; heating nitrogen, air and other gases. Dependable around-the-clock service, temperatures up to 750°. Fully insulated, with thermostatic control. Just Connect It, Set It, Forget It!

See CHROMALOX CATALOG 50 FOR ALL YOUR HEAT REQUIREMENTS
Its 48 pages give the answers to many heating problems. Write for it today.

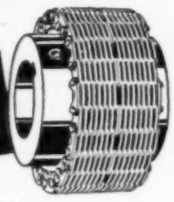
Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See Chromalox Heating Units Advertisement, Page 5

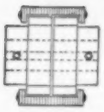
CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 6591 if you write the maker

TWO TYPES
FOR LIGHT AND HEAVY DUTY

RAMSEY FLEXIBLE COUPLING





STRAIGHT TYPE
For light loads to 300 HP capacity in eleven sizes from ½" bore. Simple, compact design with steel pinions cut straight and chain acting as flexing member. Easily installed, aligned and disconnected.

DIAGONAL TYPE
For loads up to 600 HP in speed ranges to 3600 R.P.M. in ten sizes from ½" bore. Rugged design and construction features steel pinions cut diagonally to allow use of full width of chain under tension.

Write Today for "THE COUPLING BULLETIN"

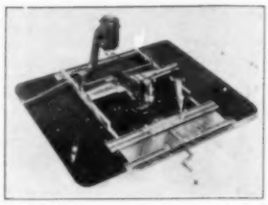
SILENT CHAIN DRIVES—FLEXIBLE COUPLINGS

RAMSEY CHAIN COMPANY, INC.
5152 BROADWAY • ALBANY, N. Y.

BREVITY—Identify by IEN - 6592 if you write the maker

ENGRAVING . . Pantograph machine takes flat panels to 25 in. in width

Source: NEW HERMES INC.
15-17 University Place, New York 3, N. Y.



Engravograph Model I-S is a new motor-driven pantograph-type engraving machine, particularly for use on large panels such as those required in electronic and instrument assemblies. The machine will take a panel to 25 in. in width and in any length by a maximum of ½ in. in thickness. It can be set up to cover any area within these dimensions with the maximum area in one setting at 9 by 2 in. or 6 by 3 in. based on a ratio of 1 to 2½. The tracing arm is adjustable to 15 sizes from one master template for a ratio range of 1 to 2½ to 6. Application is on metal or plastic panels.

The copy table is made of stainless steel. It measures 6 by 16 inches. Copy-holding slides are 18 in. in length, will take type to ⅝ in. and are adjustable for any spacing. The largest engraved type face that the machine will produce is 1 in. in height. The smallest measures $\frac{5}{64}$ inch. The motor is a $\frac{1}{20}$-hp. universal unit for operation on 110-volt current. The Formica base measures 24 by 30 inches.

BREVITY—Identify by IEN - 6593 if you write the maker

PRINTING . . Photo sensitized paper to produce direct positive copies

Source: EASTMAN KODAK CO.
341-45 State St., Rochester 4, N. Y.

20 to 42 inches by 30 or 100 feet or in cut sheets

Translucent photo-sensitized paper, characterized by its toughness, durability and the fact that lines can be erased when moistened, has been added to the company's line of printing materials for use in ordinary room light on standard reproduction equipment. Details printed on the paper can be read through the back.

BREVITY—Identify by IEN - 6594 if you write the maker

MOTOR BRUSH . . Laminated design for aircraft motors and generators

Source: PURE CARBON CO.
50 Wellsville St., St. Marys, Pa.

Laminated construction of this new brush includes a center section of chemically-treated carbon with untreated sections on the two faces. The three sections are cemented together by varying the thickness of the treated section. The amount of film deposited by a brush on a commutator or collector ring can be controlled to insure good operation at high altitude. The brush is available to order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

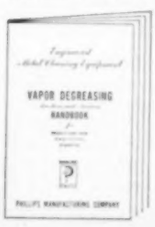
BREVITY—Identify by IEN - 6595 if you write the maker

THE DIRT DRIPS OFF

Leaves the work clean and dry when you suspend it in vapor inside a Phillips degreaser

What work? How? Why? How Big? Manual? Automatic?

The answers are all in our new 21-page illustrated booklet, "Engineered Metal Cleaning Equipment," covering machines for both production and maintenance on parts from screws to railway motors.



Write for your copy.

PHILLIPS MANUFACTURING COMPANY
3471 Touhy Avenue Chicago 45, Ill.

BREVITY—Identify by IEN - 6596 if you write the maker

TRAYS *and* CARTONS
made at startling savings

If you use factory-processed trays or cartons, you're sure of big new economies with a modern Tray-Lock Machine. Two different models are available—The *Model A* sets up as many as 90 trays a minute while the *Model B* produces hinge-cover cartons or trays at speeds up to 70 a minute . . . Both use inexpensive die-cut blanks . . . All gluing is eliminated . . . Except for occasional feeding of blanks, no operator is needed.

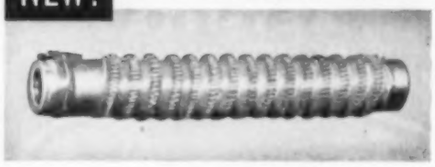
Easily adjustable for a wide range of styles. A proven cost-cutter, companies often find the Tray-Lock *pays for itself in a few months.* Write for information or contact our nearest office.

· CARTON DIVISION ·

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MEXICO, D.F.

BREVITY—Identify by IEN - 6597 if you write the maker

NEW! **ALL THE RIBFLEX ADVANTAGES ····IN HIGHER WATT RATINGS**



Faster heat dissipation. Greater space saving.

New models of Ward Leonard's Ribflex Resistors—rated 85 to 95% higher than same-sized ordinary wire-wound resistors—are made in 400, 500 and 550 watt sizes. Lengths: 8½, 10½ and 11¾ in., respectively.

Reflexed metal alloy ribbon wound on edge and permanently secured to core gives greater area for heat dissipation—allows increased temperature rise. The new, larger size Ribflex units are your answer for high current, low resistance applications. Complete range now 75 to 550 watts.

Write for Bulletin 19. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

BREVITY—Identify by IEN - 6598 if you write the maker

FOR QUALITY
Specify CHAMPION *Lamps*

Champion
MEANS THE BEST!

known — since 1900 — for over 2000 different types and styles of Quality Lamps for general and special service needs.

Ask your industrial or electrical supplier, or write direct to

CHAMPION LAMP WORKS
Lynn, Massachusetts
A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

BREVITY—Identify by IEN - 6599 if you write the maker

Make STANLEY your hinge source!

You just specify the hinge you want—Stanley does the rest, from first sketch to finished product.

Stanley gives you the advantage of expert designers and production engineers—complete research and tool-making facilities—the particular plating and finish best suited to your needs.

As the world's largest producer of hinges, Stanley is geared for efficient production to meet your requirements. Write for full information—not only on special hinges but drawings and stampings as well—now!

PRESSED METAL DIVISION
The Stanley Works, New Britain, Conn.

New York • Chicago • Detroit
San Francisco • Los Angeles
Seattle

BREVITY—Identify by IEN - 6600 if you write the maker

Send for Free Sample of KEY-TITE...

THE LEAK-PROOF SEALER FOR GASKET AND PIPE JOINT CONNECTIONS!

Sealing with Key-Tite will prevent leaks on all lines carrying water, gas, low pressure steam, compressed air, etc. It will not affect the color or taste of potable liquids so consequently can be used freely on piping and equipment where food or beverages are prepared for human consumption.

See for yourself! Send for liberal free sample to be tested in your own plant.

KEY Company
2651 McCasland Ave., East St. Louis, Ill.

KEY COMPANY, 2651 McCasland Ave., East St. Louis, Ill.
Gentlemen: Please forward free sample of Key-Tite Waterproof Sealing Compound.
Company Name.....
Address.....
Individual.....
Position.....

BREVITY—Identify by IEN - 6601 if you write the maker

No Floor Damage!

WHEN YOU MOUNT YOUR MACHINES ON

UNISORB®

UNISORB - Mounting requires no bolts . . . no lag screws . . . no old-fashioned, destructive floor drilling. A special cement (we supply it) binds the UNISORB pads to machine feet and floor with a holding strength of 1500 p. s. f. *minimum!* What's more, UNISORB absorbs from 60% to 85% of transmitted machine vibration and noise . . . saves floors, buildings, machinery . . . often permits higher machine speed. Today, write for your free copy of "Why It Pays To Anchor Your Machines with UNISORB."

The FELTERS Company
210-1 SOUTH STREET
BOSTON 11, MASS.

BREVITY—Identify by IEN - 6602 if you write the maker

CONVEYING . . Incline belt design removes work or chips from a machine

Source: MAY-FRAN ENGINEERING INC.
1694 Clarkstone Road, Cleveland 12, Ohio

Five sizes, measuring 4 to 12 ft. in belt length between pulleys, make up a new Series-S line of incline belt conveyors available in 12, 18 and 24 in. widths. The belt is neoprene-impregnated fabric in standard construction. It can be specified in the company's hinged steel design for hot or highly-abrasive metal parts.

The discharge end is adjustable in height to a maximum of 37 in. in the 4-ft. unit and 96 in. in the 12-ft. assembly. The motor drive is subject to specification. A trap and charging chute are included at the feed end.

BREVITY—Identify by IEN - 6603 if you write the maker

SAWING . . Diamond toothed band to saw refractories, ceramics, carbon

Source: DOALL CO.
252-56 N. Laurel Ave., Des Plaines, Ill.

List price
$125 per band

Steel band carries cylindrical-shaped diamond-filled matrices at irregular intervals along its recessed cutting edge to act as the teeth in a new band-saw blade. Each matrice segment measures 0.0625 in. in diameter by 0.0625 in. in length. Ten mount in one foot of band length. Thickness of the steel band itself is 0.025 inch. Four widths, measured front to back, are ¼ to 1 in. and overall band length is 162 inches.

Operating speed ranges from 3,000 to 8,000 fpm. The band applies on the company's Contour-matic Machine. It operates in connection with coolant to be flushed directly to the cutting edge during machine operation.

BREVITY—Identify by IEN - 6604 if you write the maker

PROTECTING . . Life saver vest for workers exposed to drowning

Source: INDUSTRIAL PRODUCTS CO.
2801 N. Fourth St., Philadelphia 33, Pa.

Life-Save Vest is designed for workers who operate in locations where they are exposed to drowning. At the same time it permits free use of the arms and is ventilated for comfort while at work. Construction includes a woven-drill cloth covering, kapok filling, double-bend flexible waist line. No metal parts are employed. Color is orange for visibility to locate a worker who may have fallen.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6605 if you write the maker

Bulletin 705 Reversing Switches

- Contactors mechanically interlocked
- Silver-alloy contacts need no cleaning

This complete line of switches provides reliable across-the-line starting and reversing of polyphase squirrel-cage and slip-ring motors, as well as certain types of single-phase motors used on machine tools and other industrial equipment. May also be used in motor plugging operations. Write for descriptive bulletin. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

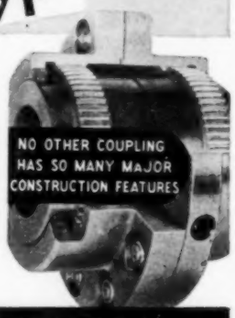
ALLEN-BRADLEY
MOTOR CONTROL

BREVITY—Identify by IEN - 6606 if you write the maker

WALDRON Improved Gear Type

USED BY AMERICA'S LEADING MACHINE BUILDERS

Users recognize the WALDRON Coupling as the most advanced design of the Gear Type. Compare it with ordinary types from a standpoint of shaft size, horsepower, speed and service. For design and construction details, ratings, service factors, etc.—write for descriptive catalog.



JOHN WALDRON CORP.
Main Office and Works
New Brunswick, New Jersey
COUPLINGS

BREVITY—Identify by IEN - 6607 if you write the maker

MACHINE LOADING, SCHEDULING, DISPATCHING AND JOB ASSIGNMENT

Bulletin outlining procedure widely used for these cost-cutting results now available:

Visual Scheduling . . . a glance at Board shows work ahead for each machine or man.

Order Sequence . . . quickly indicated by arrangement of tickets representing orders.

Schedule Changes . . . easily specified by rearranging tickets in revised sequence.

No Delay Between Planning and Dispatching . . . no lists or records to write.

Operation According to Plan Assured.

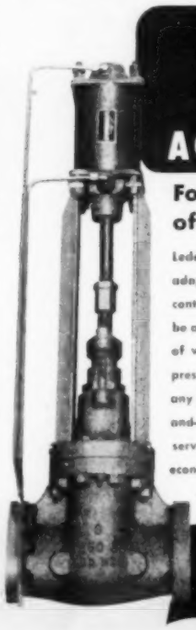
Readily Adapted . . . to production, assembly, maintenance, engineering and work of every variety, using work orders, time tickets, move tickets, tabulating cards, etc. and McCaskey Machine Control Boards.

Write today for your copy of illustrated Bulletin A-630 IEN containing all the facts.

The McCaskey Register Company, Alliance, Ohio

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

BREVITY—Identify by IEN - 6608 if you write the maker



Ledeen VALVE ACTUATORS

For Power Operation of All Types of Valves

Ledeen Valve Actuators are particularly adaptable for labor saving, or remote control of inaccessible valves. They can be adapted to any make, size, and type of valve; to operate against any line pressure—for any fluid medium—with any pressure. Can be arranged for on-and-off or positioning service. Positive in action, economical in cost.

Write for Bulletin 512

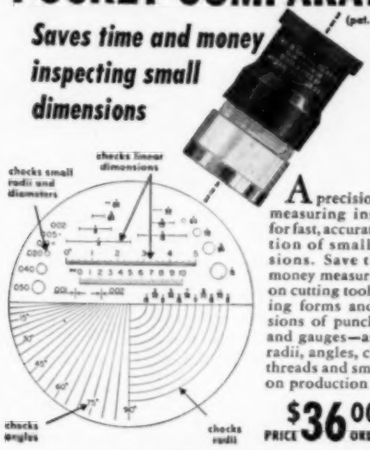
Ledeen Mfg. Co.
1602 San Pedro St.
Los Angeles 15, Cal.

BREVITY—Identify by IEN - 6609 if you write the maker

new POCKET COMPARATOR

(pat. applied for)

Saves time and money inspecting small dimensions



A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00 ORDER TODAY

a product of BELL & HOWELL CO. *distributed by*

Write for FREE descriptive folder

See Your National Tool Co. Representative or Local Jobber

NATIONAL TOOL CO.

11220 Madison Avenue Cleveland 2, Ohio

BREVITY—Identify by IEN - 6610 if you write the maker

MORE SOLD THAN ANY OTHERS

Write for Catalog OF USES AND SPECIFICATIONS

GENERAL Industrial Pneumatic Tires

..SAVE TIME·LABOR·MONEY

Protect equipment and floors • Reduce Breakage

- ★ Wide Base Wheel
- ★ More Air Volume
- ★ More Stability
- ★ More Load Capacity
- ★ Longer Miles in Hi-Speed Service

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 27"—200 to 4000 lbs. cap. for low and high speeds.

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

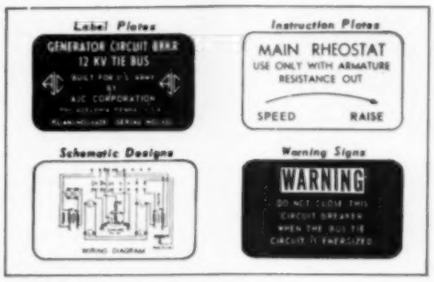
Send for Catalog • Dept. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

BREVITY—Identify by IEN - 6612 if you write the maker

NAME PLATES . . Laminated plastic as specified, mar and heat resistant

Source: DURALITH CORP.
134-38 N. 7th St., Philadelphia 6, Pa.



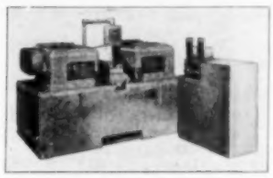
Name plates, dials, control-identifying plates, circuit or schematic-diagram plates are representative applications for the company's plastic-laminated name plates, initially developed some years ago. The company now offers new design suitable for edge lighting in which this characteristic of Plexiglas can be employed by protecting it with the surface overlay of hard wear-resistant melamine plastic.

Production is to specification. The finished unit mounts the printed matter as an integral part of the plastic protected by the 0.003-in. overlay of melamine in a construction that is not subject to attack by moisture, common acids, alkalis and most solvents. The surface is smooth and washable.

BREVITY—Identify by IEN - 6613 if you write the maker

BALANCING . . Milling machine, weight controlled for connecting rods

Source: MOTCH & MERRYWEATHER MACHINERY CO.
715 Penton Bldg., Cleveland 13, Ohio



Model FWS-10 is a new assembly of two hydraulic-feed milling heads assembled on a base with a work-holding fixture. A Toledo weighing scale is connected to electrically actuate positive stops to control the feed action of the milling spindles. The machine removes metal from the two ends of automotive connecting rods to bring these rods into a predetermined weight balance within 2 grams. Production rate is 240 pieces per hour. The machine can be set for faster operation depending upon the skill of the operator in handling the work.

The operator positions a connecting rod on the scale at the right-hand front side of the machine, this action serving to position stops in the machine. He then transfers this work piece to the holding fixture and presses a cycle-start button. Both milling heads advance by hydraulic feed until locating probes stop against the work. The milling head quills continue advance to remove the metal by an amount determined by the pre-positioned stops. Then the spindles retract and the fixture releases the work. In the meantime the operator will have positioned another work piece on the scale ready to be placed in the machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6614 if you write the maker

The "One Best Way" for Many Materials-Handling Jobs

MORRIS *Centrifugal* SLURRY PUMPS

Coal mines, cement mills, glass works, stone-cutting plants, ore-treating plants, and a large array of chemical plants have found Morris Centrifugal Slurry Pumps to be the "one best" solution to many of their difficult materials-handling problems. Particle size is the only limiting factor, and this can be much larger than you think. Even thick sludges and fluids with viscosities as high as 7,000 SSU flow smoothly through the pump, insuring long and economical life of the wearing parts.

Lower Cost Per Ton or Million Gallons

Power, labor and maintenance costs are outstandingly low when figured on a year-in-year-out basis. The accuracy of the complete Morris assembly, the smooth, vibration-free operation, and the remarkable wearability of parts, all give maximum value for the dollar invested. Ask our engineers about your special problems, or write for Bulletin No. 181.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Branch Offices in Principal Cities

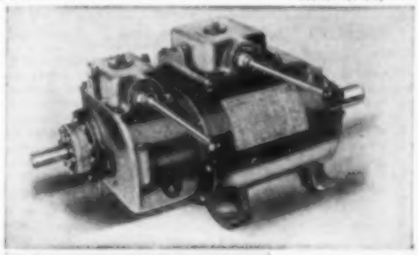
MORRIS CENTRIFUGAL PUMPS

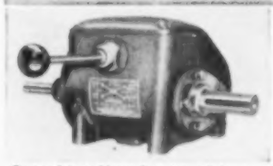
BREVITY—Identify by IEN - 6615 if you write the maker

WESTERN "SUPER" *with* 8 SPEED CHANGES

For use on large lathes, boring mills, chemical and rubber machinery, etc., and used for replacement of gear boxes on large radial drills, Bullard vertical turret lathes, etc. CAPACITY 30 HP.

In geometric progression of 1.29 (total reduction of 4:1)





(left) "900 B series" has a 5 hp. capacity with input speed of 900 r.p.m. . . . 4 gear changes are available through one-shift-lever (automotive type). Ratios—1:1, 2:1, 3:1, 4:1.

On special machines where transmissions are required — a standard WESTERN model can often be adapted to give the required spindle speeds . . . and even when modifications are made, a WESTERN for the basis of the design greatly simplifies the problem. Similar transmissions of 10 hp. capacity are available . . . we can *supply the necessary V-belts, sheaves, output pulleys and motors from stock.*

up to 50 h. p.

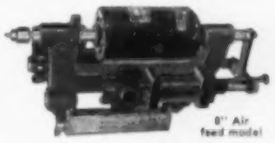
WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. — 5455 SCOTTEN — DETROIT, MICHIGAN

BREVITY—Identify by IEN - 6616 if you write the maker

Precision Hi-Speed Drilling in Metal, Wood, Plastic or Composition—.004"-.156".

Check These 9 Features



8" Air feed model

- Fingertip variable speed
- Fast approach air feed
- Hydraulic feed control
- Electric or manual controls
- Deep hole drill cleaning
- Sensitive precision spindle
- 1000-10,000, 2500-15,000 RPM
- Can be mounted at any angle, with hand or power feed
- Price 8" model, hand feed, from $130.00. Air feed model (as shown) from $238.50.

Write for helpful bulletin

The ELECTRO-MECHANO CO.
267 E. ERIE ST., MILWAUKEE 2, WIS.

BREVITY—Identify by IEN - 6617 if you write the maker

Announcing NEW CAM CLAMPS

These cam-action clamps were designed for applications where parts (such as castings, larger forgings, or stacked stampings) having variable thickness, are to be held. They are the only big cam clamps known that provide convenient means for locating the spindle assembly along the toggle bar. The spindle itself is easily adjusted for clamping height, and can be replaced by a special pressure pad to suit other clamping requirements.

MODEL CAV-1200
Recommended force at end of toggle bar: 1200 lbs. Recommended force 3½" from front of base, 1900 lbs.

MODEL CAS-1300
This clamp has the additional advantage of permitting the toggle bar to be swiveled around the base to any position within 180°

MODEL CAS-2000
This clamp has the same features as Model CAS-1200, but for 2000 lbs. clamping force.

MODEL CAV-2000—*similar to above but has fixed base*

This entire series is also available without cam action (with fixed locking). Catalogued as Models V-1200, S-1200, V-2000, and S-2000. Complete catalog sent on request.

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3060 DAVISON ROAD • LAPEER, MICHIGAN

Western Division • 422 Magnolia Street, Glendale, California

BREVITY—Identify by IEN - 6618 if you write the maker

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-50.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

BREVITY—Identify by IEN - 6619 if you write the maker

TAKE TO THE AIR-
Overcome Those Production Problems Blocking YOUR Line

INSTALL

POWER and FREE CONVEYORS

Proven through constant use in hundreds of manufacturing plants, Webb Materials Handling Conveyor Systems reduce costs and increase efficiency and productivity.

Power and Free Conveyors can be tailor-made to your requirements . . . to any plant large or small. They offer complete flexibility in meeting production problems. Some of their advantages include:

Loads are pushed, switched manually or automatically, can be lowered vertically, dispatched automatically by pre-setting carriers, and can be stopped, momentarily anywhere along route.

Remember—You can depend upon Webb Engineering and cost-cutting Conveyor Equipment to solve your materials handling problems.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
8915 ALPINE AVE. DETROIT 4, MICH. — OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 6620 if you write the maker

Quiet Telephoning in noisy locations

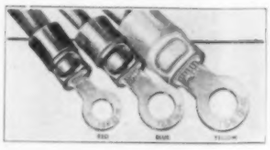
You can clearly hear the other party in the hushed interior of a Burgess-Manning Acousti-Booth. A heavy blanket of sound-absorbent material lining the walls traps the noise. Conversations are understandable. Doorless construction. Clean, airy interior. Modern appearance. Floor and wall models. Suitable to any location.

Mail Coupon for Free Booklet
Burgess-Manning Company
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Ill.
Please send me your booklet describing Burgess-Manning Acousti-Booths.
Name _____
Firm Name _____
Street _____ City _____ State _____

BREVITY—Identify by IEN - 6621 if you write the maker

CONNECTOR . . Solderless terminal for application in restricted spaces

Source: THOMAS & BETTS CO.
60-A Butler St., Elizabeth 1, N. J.

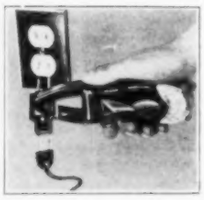


Nylon sleeve press-fitted on a bronze insulation-gripping sleeve applies over the shank or barrel of this new terminal prior to staking the terminal in place on a stranded wire conductor. The nylon is translucent and is supplied in three coding colors. These are red for wire sizes from No. 22 to 18, blue for No. 16 to 14 and yellow for No. 12 to 10. The terminal grips the wire and also the insulation on the wire. The insulating sleeve prevents contact between conductors in confined locations, is resistant to attack by heat, oil, solvents, hydraulic fluids.

BREVITY—Identify by IEN - 6622 if you write the maker

METER . . AC. voltmeter opens for application around conductor

Source: PYRAMID INSTRUMENT CO.
47-51 Howard St., New York 13, N. Y.

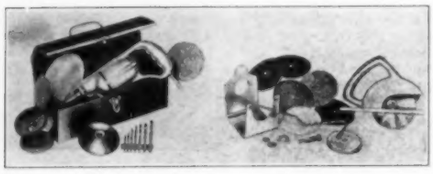


Model 30 designates new assembly of the Amprobe voltammeter previously described IEN-404-50. The new unit combines the original 10X Sensitizer and the 1X Split Plug, previously described as accessories in IEN-11629-50. Change is made from one to another by operating a two-position switch on the instrument housing. Application is on appliances and motors of ¼ hp. or less in standard arrangement.

BREVITY—Identify by IEN - 6623 if you write the maker

DRILLING . . Portable electric tool and attachments to grind, polish, sand

Source: SUPERIOR ELECTRONIC CO.
227 Fulton St., 4th Floor, New York 7, N. Y.



List price is about $27 for this new kit assembly of portable electric ¼-in. drill for operation on 110-volt ac. with attachments for sawing, polishing, sanding, buffing, grinding, brushing, mixing as well as seven assorted drills and a steel bench stand to hold the tool.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6624 if you write the maker

"'LOCKING' PHILCO'S QUALITY IN, EH?"

● "Philco, famous for quality the world over", locks that quality in their shipments with king-sized INTERNATIONAL STAPLES. Above you see The Staple Toothed Tiger "mugging" into the picture of Philco's Sandusky installation. Naturally he's watching the gal . . . Staple filled cartons from the outside, tops and bottoms simultaneously . . . a procedure which cuts shipping room costs 50% or more!

INTERNATIONAL STAPLE & MACHINE COMPANY
HERRIN 5, ILL.
DISTRIBUTORS IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 6625 if you write the maker

Picture of a Free Man!
thanks to CESCO's New #600 AIR-FED HOOD

Cesco's New #600 AIR-FED HOOD . . . *Approved by* U. S. BUREAU OF MINES *under "Class C" Respirator for use where toxic dust and fumes are encountered. Operating pressure 5 to 9 pounds.*

FREE from weighty, rigid hoods
FREE from hoods with narrow, fixed vision!
FREE from toxic dusts!
FREE from harmful abrasive particles!
FREE from fatiguing, noisy air inlets!
FREE to work better, faster, more safely!

● The exclusive advantages of CESCO's new #600 AIR-FED HOOD are bound to increase worker comfort, safety, and output. It is ideal for lead discing and other grinding operations, light sandblasting, paint spraying, etc. Write for more detailed information or see your Cesco Distributor.

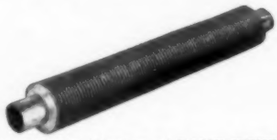
CHICAGO EYE SHIELD CO., 2326 Warren Blvd., Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Los Angeles, Montreal, Philadelphia, Pittsburgh, Salt Lake City, Spokane, St. Louis, St. Paul, Toledo, Tulsa

BREVITY—Identify by IEN - 6626 if you write the maker

For efficient heat transfer "Ro-Fin" Tubes



There are nearly 100 sizes of ROME EXTENDED SURFACE HELICAL FIN TUBING in production! Available in straight length, coils, or U-bends . . . with or without threaded end connections . . . or to be used with standard flare connections. "Ro-Fin" Tubes for efficient heat exchange are used and specified by nearly all large nationally known manufacturers!

For refrigeration condensers • fluid recovery condensers • diesel engine cooling • concealed radiation convectors • steam condensers • fan-type unit heaters • all heat transfer work

Write for information on your heat transfer problems:

ROME
TURNEY RADIATOR COMPANY

200 East Front Street • Rome, New York

BREVITY—Identify by IEN - 6627 if you write the maker

MORE SPEED MORE SUPPORT

BALL-BEARING BAND-SAW GUIDES

ALL STEEL
STRONG • STURDY

PADDOCK BALL - BEARING BAND - SAW GUIDES are the answer to faster band-saw production—greater safety to operators—cutting down saw-blade breakage. Ball-Bearing wheels (interchangeable) running with the blade give strong, friction-free support. Hold working portion of blade as if in a frame. Very reasonably priced — will last for years. IMMEDIATE DELIVERY. Write for circular and price.

PADDOCK TOOL COMPANY
Guide Makers Since 1920
1418 Walnut St., Kansas City 6, Mo.

Paddock BALL-BEARING BAND SAW GUIDES

BREVITY—Identify by IEN - 6628 if you write the maker

Now More Positive Protection than Ever Before with the New FLEX-A-FOAM FILTER MASK

Newly designed for maximum comfort and efficiency, it's easier to breathe through and talk through than an ordinary pocket handkerchief . . . yet filters non-toxic dusts as small as 1/25000 of an inch!

- Extremely light in weight—just one ounce complete.
- Self-adjusting to every face size—no interference with eye glasses.
- Simple sturdy design—only four interlocking parts.
- Only respirator made with long-lasting washable filter—outwears throw-away type as much as 100 to 1.

Sample $1.40 postpaid

Write for new descriptive folder

Dust Protection your workers will welcome and *Wear*

FLEX-A-FOAM FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

BREVITY—Identify by IEN - 6629 if you write the maker

Better rubber products are made with Du Pont NEOPRENE

Neoprene skidproof coating resists abrasion . . . helps prevent plant accidents

Slippery steps, floors, walks and truck runways endanger safety of workers and slow down production. One plant has solved this problem with a special slipproof coating of Du Pont neoprene. Tough durable neoprene in a solvent solution is simply poured over a primer cont which has been allowed to dry. It is then spread with a brush and sprinkled with sand. When the solvent evaporates a firm skidproof surface remains.

This neoprene coating is easily applied to wood, steel or concrete. And it will provide lasting protection against accidents even under the heaviest traffic because neoprene resists abrasion, oils, acids and most chemicals. Since neoprene withstands constant exposure to sunlight and weathering, these floors are long lasting, outdoors as well as in.

This is only one of Du Pont neoprene's almost limitless industrial applications. Leading rubber goods manufacturers use neoprene and its unusual properties to make their finest products. While Du Pont produces no finished goods of neoprene, your rubber goods manufacturer or distributor will gladly tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK

Full of interesting stories. New, unusual applications of neoprene to build new products . . . improve old products . . . reduce maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division D-7, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

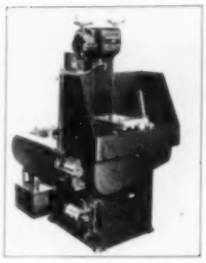
DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

BREVITY—Identify by IEN - 6631 if you write the maker

GRINDING . . Abrasive belt machine for wet operation on thin section work

Source: HAMMOND MACHINERY BUILDERS INC. 1607 Douglas Ave., Kalamazoo, Mich.



Model V-8WP designates a new abrasive-belt machine in the company's line of grinding equipment. The new unit is featured by its use of a chromium-plated water-cooled steel platen to back up the 8-in. belt in the area where work pressure is applied. Cooling water is supplied by a centrifugal pump which also delivers through two nozzles, one above the work over the face of the belt and one inside the base to clean the belt. Water entering the platen chamber from the bottom is discharged under pressure created by the pump to flow between the belt and platen face. Downward pull of the belt establishes a continuous film between it and the platen to assure cool operation.

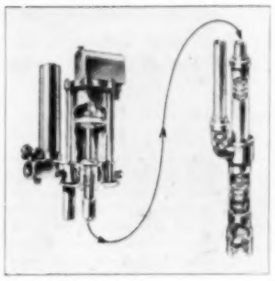
The machine is equipped with a reciprocating and tilting work table. Reciprocation is by motor drive in a stroke adjustable to a maximum of 8 in. back and forth across the belt. The tilting action is by a hand lever with the hinge point near the front of the table so work fixtures are brought up and back toward the operator for loading and unloading.

Working surface is 8 by 17 in. with the power reciprocating table. Belt speed is 5,000 fpm. Floor space measures 36 by 52 inches. Overall height is 72 inches. Sealed ball bearings are employed on the revolving shafts. The drive motor rates 5, 7½ or 10 horsepower. Detail illustrated information is presented in 4-page Bulletin 330.

BREVITY—Identify by IEN - 6632 if you write the maker

PUMP . . Pneumatic reciprocating, delivers fluid finishing materials

Source: BINKS MFG. CO. 3122 Carroll Ave., Chicago 12, Ill.



Double-acting pneumatic cylinder for connection to a shop air line drives a double-acting piston in this new pump to pick finishing materials up from their original containers and deliver them on both the "up" and "down" stroke to an outlet connection. When the outlet is equipped with the company's fluid regulator there is no pulsation. Material flow is held steady and uniform at desired pressure, minimum at 3 pounds. The pump will handle thinners, enamels, lacquers, paints, adhesives, sound deadeners. It will operate with liquids containing abrasives.

Three types apply in open 55-gal. drums, in closed 55-gal. drums equipped with 2-in. bunghole and in 5-gal. containers. Five air-to-fluid pressure ratios are from 1 to 10 to 1.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6633 if you write the maker

White PIONEER Stanzoils

Protect Your Products . . .

Speed Workers' Hands

Easy-to-wear Whitecaps speed production in food handling, other jobs where sanitary cleanliness is vital. Also in handling small parts—workers really *see* small dark pieces in assembly and inspection, and *feel* 'em, too! Whitecaps won't smudge white products. For heavier jobs—regular white Stanzoils, light, medium, heavy weights. All of white DuPont neoprene, long lasting in oils, acids, caustics. Buy white Stanzoils from your supplier, or write today for complete information and prices.

Industrial Glove Division

The PIONEER Rubber Company

635 Tiffin Road • Willard, Ohio

644 N. Vermont, Los Angeles 4, California

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

BREVITY—Identify by IEN - 6634 if you write the maker

HEAVY-DUTY Foot Switch

Available with or without pedal guard, in several types

STREAMLINED to match modern machine styling • Heavy cast case, gasketed for oil-tight applications • Compact design—hugs floor—won't tip • Wide pedal, operable from three directions but protected against accidental contact or falling objects • Adjustable stroke. Short motion and slight angle eliminate ankle fatigue • Self-contained contact mechanisms easily wired or replaced • Snap action contacts, rated 600 volts pilot duty, A.C. or D.C.

Write for Bulletin 9002 AW. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

BREVITY—Identify by IEN - 6635 if you write the maker

Positive snap action . . . for military and civilian applications

Klixon Thermo-Snap Controls . . . hermetically sealed and open types . . . give accurate temperature control. Actuated by the simple, snap-acting "Spencer Disc," their snap-action opens the circuit with a *quick, clean break* . . . closes the circuit to a *solid make*. Their accurate operation is best able to withstand shock, vibration, altitude or motion.

Klixon Thermo-Snap Controls are used in many military and commercial applications including use as — low limit and high limit controls, fuel delay switches, purge switches, temperature controls, fan switches, tube and rectifier cooling control, etc.

They are available in many types and ratings including completely hermetically sealed units. Write for information today.

KLIXON

SPENCER THERMOSTAT

Division of Metals & Controls Corp.

207 FOREST STREET, ATTLEBORO, MASS.

BREVITY—Identify by IEN - 6636 if you write the maker

SELF-SUPPORTING AERIAL CABLE

Industrial plants everywhere are learning the dependable, low-cost advantages of Okolite-Okoprene self-supporting aerial cable.

Installation is compact, streamlined and neat appearing; reduces clearance problems and wiring congestion. Maintenance costs are considerably less than for open wiring, with a corresponding decrease in outages and service interruptions. The dangers of open wiring are completely eliminated.

When taps are required, patented Dualay assembly permits ample separation of insulated conductors without cutting the conductors or performing any operation on the messenger.

Long-life features of the cable itself are: Okoloy conductor coating . . . Semicon tape on cables operated above 2000 volts to increase safety factor . . . time-proved Okolite insulation . . . tough Okoprene protective covering—highly resistant to heat, moisture, sunlight, oils, acids and chemical fumes.

Bulletin IE-2077 gives details of a typical installation. For a copy, write The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE *insulated wires and cables*

8946

BREVITY—Identify by IEN - 6637 if you write the maker

Syntron Tubular Model F-33 regulating feed of three materials from chutes to bucket elevator. Finger-tip control of rate of flow assures maximum efficiency.

SYNTRON

"Vibra-Flow"

VIBRATORY FEEDERS

With Variable Control of Rate of Flow

HOT, COLD, DRY, DAMP, ABRASIVE, FINE, LUMPY—will handle most types of bulk materials—at variably controlled rates from POUNDS to hundreds of TONS per hour—to MIXERS, BELTS, CRUSHERS, SCREENS, PACKAGING MACHINES, OVENS, ETC.

Write To—

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

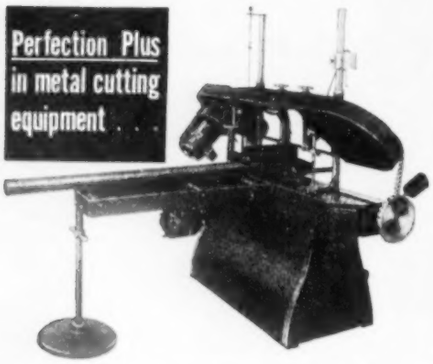
BREVITY—Identify by IEN - 6638 if you write the maker

A GRINDING AND POLISHING UNIT!

As shown here, the 6-72 Vonnegut Abrasive Belt Unit is setup as a *lathe attachment* for cylindrical grinding and polishing. The same basic unit can be used as a *floor stand* and also as a *swing machine*. But that's not all—it has proved its value as a grinding and polishing unit for special machines, and as an attachment for other machines. There is the possibility that it can be used for an entirely new application in *your* plant. If you find that possibility, write us about it—we'll be glad to help you work out the details. Send for Bulletin No. 62.

VONNEGUT MOULDER CORPORATION
1827 MADISON AVENUE • INDIANAPOLIS 25, IND.

BREVITY—Identify by IEN - 6639 if you write the maker



. . . . by the PIONEERS in this field!

Production volume UP, manufacturing costs DOWN—that's the job our band saws are doing in plant after plant. Big 14" x 18" capacity gives broad operating range. Fully automatic—motor driven, hydraulically controlled. Perfected by the pioneers in electric band saw manufacturing, these units guarantee the utmost precision accuracy.

Investigate the money saving possibilities offered by our line of trouble-free saws. Coolant system for wet cutting, automatic move-up system, and other accessories available as described in our FREE illustrated catalog.

WRITE TODAY FOR COMPLETE INFORMATION

W. F. WELLS & SONS
Three Rivers, Michigan

BREVITY—Identify by IEN - 6640 if you write the maker

DUST COLLECTING . . Separator unit removes dust from air at a machine

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Intake capacity rates 437 cfm. at 5,000 fpm. for this new Model 4N20 collector. It pulls air carrying chips, dust, dirt, shavings, fumes through the intake and delivers them to a Cyclone separator. Solid material drops out of the air in the separator to collect in a drawer in the bottom of the housing. The air and very fine dust are exhausted to the outside of the building in which the unit is applied.

Floor space measures 12 by 23 inches. The driving motor rates ½ hp. and operates at 3,600 rpm. to drive the direct-connected suction blower. There is sufficient capacity to handle a buffing, grinding or polishing wheel to 10 in. in diameter. It also will remove dust-laden air in connection with belt and disc sanding operations. A single 3-in. or 4-in. inlet or a double 3-in. inlet can be specified.

BREVITY—Identify by IEN - 6641 if you write the maker

CONVEYING . . Pneumatic equipment for dry granular materials in batches

Source: BRADY CONVEYORS CORP.
18-22 W. Jackson Blvd., Chicago 4, Ill.

Please note added data

New information, in addition to the operating air-pressure range of 10 to 100 lb., previously reported IEN-5992-51 for the company's pneumatic conveyor, now permits us to quote capacities. The equipment is available to handle 1 to 50 ton of sand per hour. It will convey over distances from 10 to 5,000 feet. Batch operation is a feature.

BREVITY—Identify by IEN - 6642 if you write the maker

ELECTRIC WIRE . . End seal for multi-conductor sheathed cable

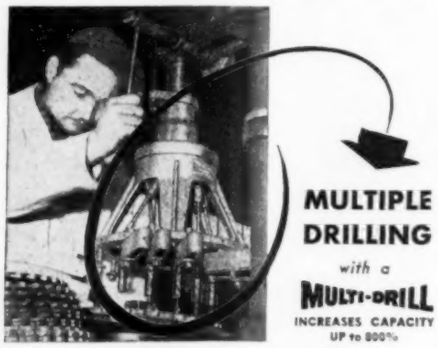
Source: OKONITE CO.
30 Canal St., Passaic, N. J.

Okoprene End Seal is a new cone-shaped collar to apply over the sheath on a multi-conductor electric cable after the sheath has been cut back a short distance. Sealing compound such as Oko-Cal No. 21 then is poured in to fill the cone and the spaces around the conductors. It solidifies in position to make a permanent water-proof termination for the cable.

The cone is available to specification for cable with outside diameter measuring ¾ to 2 inches. It is suited for use on neoprene-sheathed and on braided and lead-sheathed multi-conductor cables.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 6643 if you write the maker



MULTIPLE DRILLING *with a* **MULTI-DRILL**
INCREASES CAPACITY UP to 800%

ADJUSTABLE TO ANY HOLE PATTERN . . . FITS ANY DRILL PRESS

If your production requires drilling from 2 to 8 holes in a work piece a MULTI-DRILL will cut costs and speed output up to 800%. The MULTI-DRILL is universally adjustable to any hole pattern—is compactly built to permit easy, unhampered operation with drill jigs or other special fixtures. Ruggedly built to take the wear and tear of high production work, the MULTI-DRILL will handle your long and short run multiple drilling jobs with ease—and economy. The MULTI-DRILL will drill on hole centers as close as ½"—handle drill sizes up to ⅝" in steel. Special adaptations available.

There is a Commander MULTI-DRILL Distributor in your area. Write for his name, literature and complete details.

COMMANDER MFG. CO.
4218 WEST KINZIE ST. CHICAGO 24, ILLINOIS

Product of *Commander* . . . Builder of Production Tools

BREVITY—Identify by IEN - 6644 if you write the maker

Nutting FLOOR TRUCKS WHEELS-CASTERS

Here are two veterans of the Nutting line—proven resourceful and tough for faster material handling. These easy rolling, well balanced trucks get the job done right—on time! Your men will like to work with them—and their cost per year is hardly visible.

Fig. 16—No. 24
Steel-bound hardwood frame, extra heavy axle.

Fig. 1136
Non-Tilting Bar Handle Truck
Capacity 2500-3000 lbs. A proven veteran for all-round service. Pressure-lubricated roller bearing wheels. Range of sizes.

Write for Bulletin 49-G

Nutting makes everything in floor trucks, wheels, casters. Representatives in principal cities.

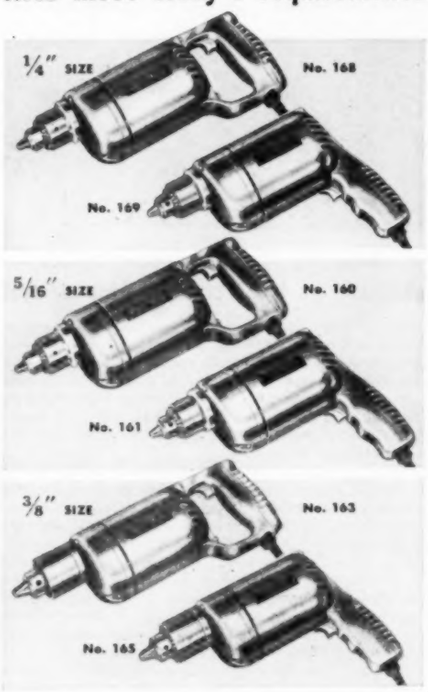
See your classified telephone directory or write direct to

our 60th Year **NUTTING TRUCK AND CASTER COMPANY**
2012 DIVISION STREET, FARIBAULT, MINNESOTA

BREVITY—Identify by IEN - 6645 if you write the maker

6 New Drills

...to meet today's requirements



Six brand new drills—all with the famous Stanley name—designed especially for heavy-duty production drilling. They're streamlined beauties and packed with surplus power for fast penetration through steel or wood. Outstanding features include: full polished die-cast aluminum housing, trigger switch with locking device, seal-type ball bearings, three-jaw geared chuck, removable chuck guard to protect operator and finished surfaces. Available for all standard voltages, A.C. or D.C. See them at your dealer's, or write for complete descriptive information. Stanley Electric Tools, 414 Myrtle Street, New Britain, Conn.

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

BREVITY—Identify by IEN - 6647 if you write the maker

Messages or Missiles . . . . . the men who dispatch them count on Veeder-Root . . . . . in fact . . .

Everyone Can Count on VEEDER-ROOT

Radar, communications, gunfire *Count*rol . . . and many other military "musts" . . . count on Veeder-Root Counters for dependable, continuous Facts-in-Figures. Never mind how. Just count on it that the job is being done . . . right up "to the nines." If *anything* is worth keeping track of, then you can count on Veeder-Root to do the job as it needs to be done . . . within the limitations of defense production, of course.

VEEDER-ROOT INC., Hartford 2, Conn.

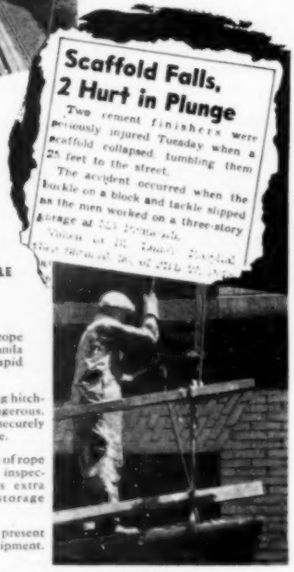
BREVITY—Identify by IEN - 6648 if you write the maker

Which Do You Choose SAFETY *or* RISK?

Compare the Advantages of Modern Scaffolds Over Block and Tackle!

GOLD MEDAL MIDGET Safety Swinging Scaffolds

- ✓ Light, compact, easy to rig.
- ✓ ¼" *steel* wire rope, wound on drum, eliminates dangerous hitches.
- ✓ Machine positively locked three ways to prevent slipping or running down. Stirrup *belted* to operating mechanism.
- ✓ One man can carry a Midget Machine.
- ✓ A Midget offers built-in safety in every way.



BLOCK AND TACKLE Scaffolds

- ✗ Heavy, bulky.
- ✗ Bulky coils of rope tangle easily. Manila rope subject to rapid deterioration.
- ✗ Tying and untying hitches is always dangerous. Cradle iron not securely fastened to tackle.
- ✗ Large bulky coils of rope require constant inspection, as well as extra handling and storage space.
- ✗ Danger is always present in this type equipment.

Write for free illustrated Bulletin No. J-7(M). See how this scaffold can work for you!

LADDERS AND SCAFFOLDS FOR ANY PURPOSE . . . . Any Place . . . . Any Time

GOLD MEDAL LADDERS SCAFFOLDING — for Greater Safety...Efficiency...Economy

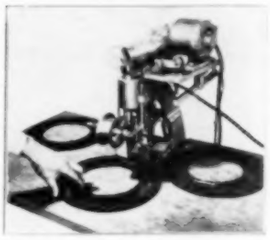
THE PATENT SCAFFOLDING CO., Inc.

38-21 12th Street, Dept. IEN, Long Island City 1, N. Y.

BREVITY—Identify by IEN - 6650 if you write the maker

MARKING . . Motor driven machine color marks flat non-metallic work

Source: ACROMARK CO.
7 Morrell St., Elizabeth 4, N. J.



Model EMS is a new marking machine arranged to operate with electric heating and transfer in color through a roll-leaf tape on flat non-metallic work such as gaskets, brake linings, fibre sheets and discs, plastic plates. The machine operates at 43 rpm. It applies 2½ ton of pressure and heat against the pigment tape. The machine measures 12 by 15 by 15 in. without its work table. Control centers at a foot-operated clutch. Dies are to specification.

BREVITY—Identify by IEN - 6651 if you write the maker

PACKAGING . . Plastic coated paper is heat sealable, can replace foil

Source: H. P. SMITH PAPER CO.
5001-5 W. 66th St., Chicago 38, Ill.

Ask for samples and complete data

Sara Pak is a new combination of kraft paper with a hot-melt coating of thermoplastic resin applied by the company's Loxol process. The resulting product tests at 0.05 gm. for moisture-vapor transmission per 24 hr. at 90 deg. F. relative humidity. This qualifies it as a barrier material to meet Specification JAN-P-117 Grade A Type 1 and 2 Class D which up until now have required foil.

The coating is resistant to attack by greases in addition to being heat sealable. It is particularly suited to fabricate heat-sealed pouches to package machine parts. It folds and creases without injury and does not become brittle with age.

BREVITY—Identify by IEN - 6652 if you write the maker

FUSES . . Indicating holder for miniature cartridge fuse to 8 amp.

Source: ALDEN PRODUCTS CO.
115-119 N. Main St., Brockton 64, Mass.

Neon lamp, molded in as an integral part of the transparent Tenite lens on the face of this new fuse holder, glows when the fuse burns out to indicate need for renewal. The lens is turned to release its threaded connection and then is drawn out from the front. This releases the enclosed fuse which is ejected by a spring in the base of the plastic housing.

Overall length is about 2 inches. Distance between the mounting holes in the metal plate measures 1¾ inches. The fuse is a cartridge measuring ¼ by ¾ inches. It is available in various standard ratings from ⅛ to 8 amperes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6653 if you write the maker

the Original

ALUMINUM SAFETY HAT

McDonald TYPE "T"

- *Made of super-tough duraluminum*
- *Ribs radiating for extra strength*
- *Light in weight (11¼ oz.)*
- *Cool — reflects sun's rays*
- *Good looking — preferred by workmen*
- *Fully suspended, easily adjusted headband*
- *Two shell sizes fit all heads*
- *Accessories for winter wear*

WRITE FOR BULLETIN AND PRICES

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

BREVITY—Identify by IEN - 6654 if you write the maker

INDUSTRIAL INKS To Mark Anything!

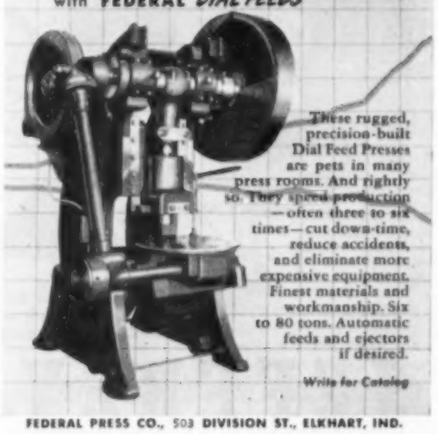
Production engineers use "Clear Print" Wood Block Stamp Pads and Opaque Inks for the best clear, sharp, fast drying impressions. To cut down on lost shipments and rejected assemblies because of poor identification, use "Clear Print" for shipping room direction stamps and parts numbers. You are assured of permanently legible markings. Many bright visible colors available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS.

BREVITY—Identify by IEN - 6655 if you write the maker

UP GOES PRODUCTION — DOWN GO COSTS!

with FEDERAL *DIAL FEEDS*



These rugged, precision-built Dial Feed Presses are pets in many press rooms. And rightly so. They speed production — often three to six times — cut down-time, reduce accidents, and eliminate more expensive equipment. Finest materials and workmanship. Six to 80 tons. Automatic feeds and ejectors if desired.

Write for Catalog

FEDERAL PRESS CO., 503 DIVISION ST., ELKHART, IND.

FEDERAL DIAL FEED PRESSES

26 YEARS OF QUALITY CONSTRUCTION

BREVITY—Identify by IEN - 6656 if you write the maker

SAVE MONEY!

USE *Rapistan* COLD-FORGED CASTERS!

Rugged, thick-sectioned casters at new low prices! Rapistan's special method of cold-forging flows molecules of steel to points of caster's greatest wear . . . raceways are then case-hardened . . . result is unusual strength and durability, at lower cost than ever before! Mail coupon for money-saving details.

Rapistan® INDUSTRIAL CASTERS

The RAPIDS-STANDARD Co., Inc.
523 Rapistan Bldg., Grand Rapids, Mich.
Please rush information on the new Rapistan Cold-Forged casters!

NAME _____
COMPANY _____
STREET _____
CITY _____ STATE _____

BREVITY—Identify by IEN - 6657 if you write the maker

THE CAMBRIDGE

INDUSTRIAL MODEL DIRECT READING

pH METER

- Operated from any AC outlet
- Completely portable. Weighs only 10 lbs. Electrodes are integral parts of the instrument.
- Accurate to .10 pH.
- Shielded glass electrodes permit use of electrodes at any distance from the instrument.
- May be used on a bench or wall mounted.
- Self contained in one metal case including electrodes and buffer solutions.
- Extremely stable.
- Automatic temperature compensation.

Send for bulletin 910-NA.

Also available: Electron-Ray Research Model accurate to .02 pH and Laboratory Model accurate to .05 pH and Single- and Multi-point recorders.

CAMBRIDGE INSTRUMENT CO., INC.
3710 GRAND CENTRAL TERMINAL NEW YORK 17, N. Y.
Pioneer Manufacturers of
PRECISION INSTRUMENTS

BREVITY—Identify by IEN - 6658 if you write the maker

BIN VALVES

A wide variety of Valves to meet most any requirement. Also Feeders, Conveyors, Bin-level Indicators and Rotary Bin Check Valves.

Cast Iron Clam Shell Type

Cast Iron or Steel Bottom Discharge Valves.

Rotary Valve for discharging and controlling finely pulverized material.

Side Discharge Valves.

We will be glad to send along more complete information. Write today.

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 N. Fourth Street Columbus 16, Ohio

BREVITY—Identify by IEN - 6659 if you write the maker

Man alive! This Hydraulic Jack DOES EVERYTHING but walk and talk!

It's *no ordinary* hydraulic jack . . . this is a *"Porto-Power"*! Its compact, *remotely-controlled* ram is threaded for fast assembly with ingenious attachments . . . to push, pull, clamp, press, bend or spread . . . over any span, any angle!

Every maintenance crew needs this

Porto-Power SBI KIT

Replace slow, dangerous, damaging maintenance methods! The 10-ton hydraulic unit and attachments save up to 9 man-hours moving a single machine. Pull pulleys; push out pins, bushings, bearings; bend rail; clamp—do "1001" other tough jobs!

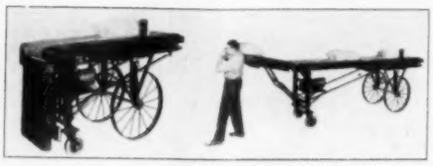
Buy from leading supply houses. Write for "Porto-Power" catalog.

BLACKHAWK
BLACKHAWK MFG. CO., Dept. P-3971, Milwaukee 1, Wis.

BREVITY—Identify by IEN - 6660 if you write the maker

CONVEYING . . Portable belt assembly, telescopic design for box car loading

Source: RAPIDS-STANDARD CO.
342 Rapistan Bldg., Dept. BCLI, Grand Rapids 2, Mich.



Bag loading into a box car is assisted by application of this new design of the company's wheel-mounted telescopic belt conveyor. The unit can be rolled into a box car with its receiving end over the large supporting wheels at the entrance door and its delivery end extended toward the car end.

Bags brought in on an outside conveyor move along the new unit for delivery at any one of four heights determined the setting the hinged feed section. It is necessary only to receive each bag from the end of this section and place it on a pile. As piles are completed the telescopic portion is retracted. When virtual center of the car is reached the conveyor is reversed and the opposite end is similarly filled.

The conveyor rates a 300-lb. load capacity and operates at 90 fpm. The belt measures 20 in. in width. A total of 600 bags weighing 240 lb. each can be handled in an hour or 1,500 bags weighing 100 lb. each.

List price is approximately $1,950 without the power cable and plug. Bed height is adjustable between 53 and 63 inches. Overall extended length is 16½ feet. Minimum retracted length is 8 feet. Width is maximum at 37½ inches.

BREVITY—Identify by IEN - 6661 if you write the maker

RECORDING . . Strip chart instrument plots curves for two variable factors

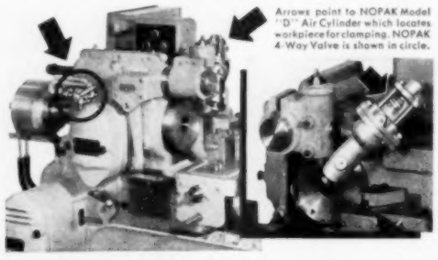
Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.

Function Plotter is a new adaptation of the company's ElectroniK strip-chart recorder in which one of two variables actuates pen movement across the chart while the other variable operates the chart drive in either forward or reverse direction. It is possible to plot a continuous curve that will read factors such as speed versus torque, stress versus strain, temperature versus pressure. A variation in the design substitutes a selsyn motor for the chart drive and retains the electrically-interpreted variable for the pen drive so a curve can be plotted between this variable and mechanical motion to draw a curve such as one representing stress versus strain.

Full scale for chart traverse can be specified at 11 or 15 inches. Corresponding pen traverse is 24, 12, 4½ or 2 sec. in the first case or 24, 12 or 4 sec. in the second. The instrument is arranged so the chart can be advanced manually after completing a given curve to move a new section into position ready to record the next plotting cycle.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6662 if you write the maker



Arrows point to NOPAK Model "D" Air Cylinder which locates workpiece for clamping. NOPAK 4-Way Valve is shown in circle.

NOPAK 4-Way Valve Controls Model "D" Cylinder and Air Chuck

In this lathe application, a ¼" NOPAK 4-Way Valve performs two vital functions. (1) It controls the NOPAK Model "D" Cylinder which locates the work-piece before clamping, and (2) it operates the air chuck. When the valve is open, the chuck is unclamped and the "locater" is down; when the valve is closed, the chuck is clamped and the "locater" is up.

This application of a NOPAK Valve and Cylinder is typical of many in the machine-tool field. It may suggest how you can use NOPAK products to improve the performance of machines or equipment which you use in your plant, or build for others.

NOPAK 4-Way Hand Valve.

Write for Bulletin SW-1 or refer to Sweet's File for Product Designers

GALLAND-HENNING MFG. CO.
2760 South 31st Street, Milwaukee 46, Wisconsin
Representatives in Principal Cities

NOPAK
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

BREVITY—Identify by IEN - 6663 if you write the maker

Sound Packaging is an Engineering Problem . . .

Sound packaging becomes more and more an engineering problem in that all equipment, other than strictly packaging detail, must be correlated to produce quality products profitably. From a packaging standpoint alone engineering thinking must consider packaging look (over or underweight per unit). This save dollars control measure is accurate check-weighing . . . by hand if necessary . . . by semi-automatic methods when practical . . . by fully automatic application if possible. Present day EXACT WEIGHT Scales fit more different products; more high speed production lines; do more specialized jobs than any industrial scales at the engineer's disposal today. Are you setting up a new operation, redesigning an old one or just bettering your present system? Save time, money, product, and man hours equipment wise by writing for full information pertaining to your engineering problem.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

BREVITY—Identify by IEN - 6664 if you write the maker

THIS GRIEVE-HENDRY PORTABLE INDUSTRIAL ELECTRIC OVEN *WILL CUT YOUR COSTS!*

Model CR-1

10 CU. FT. CAPACITY
30" Wide
25" Deep
24" High
Removable Shelves and Drip Pan

FOR THESE REASONS . . .

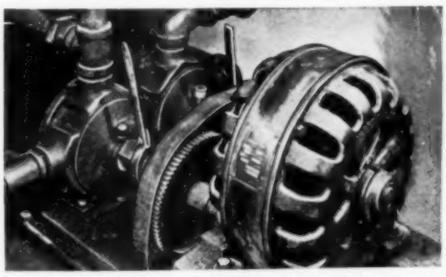
. . . LOW FIRST COST ONLY . . . $79.50

- PORTABLE — move it to the job, or use in a group or bank.
- LOW OPERATING COST — costs less than 5c per hour to operate.
- OUTSIDE READING SENSITIVE THERMOMETER AVAILABLE.
- ADJUSTABLE TEMPERATURE CONTROL.
- FAN DRIVEN FORCED CIRCULATION — assures uniform temperature.
- PLUGS INTO ANY 110V WALL OUTLET — no special wiring required.

Other Standard Models with Temperature Range to 800° F. Available • Write for Literature

GRIEVE-HENDRY CO., INC.
1654 WEST HADDON STREET CHICAGO 22, ILLINOIS

BREVITY—Identify by IEN - 6665 if you write the maker



A 1915 MODEL AT WORK

There's something of this old Work-Horse in every VIKING PUMP

This old-timer probably does not look like Viking pumps you are now using, but something of this old work-horse has always been built into every Viking pump. The ingredients of that "something" are: ONE, the operating principle (most copied of all rotary pump designs) and, TWO, the old-time skill and workmanship of generation after generation of expert craftsmen.

When you specify Viking, you are sure of a good name, a good product and good pumping service. Send for free bulletin 51SF.

VIKING AN HONORED NAME IN PUMPING

Viking PUMP COMPANY
Cedar Falls, Iowa

BREVITY—Identify by IEN - 6666 if you write the maker

HORTON TANK STOPS CORROSION

Recently this Horton stainless-clad steel tank was built for the Lion Oil Company to store ammonium nitrate solution. It is one of the many storage and processing tanks we have built from corrosion-resistant metals. When requesting quotations, state capacity or dimensions, location and type of metal to be used.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

BREVITY—Identify by IEN - 6667 if you write the maker

couplings . . .
that assemble fast . . . hold tight . . . seal positively

Joining tubes and ducts is usually accomplished with flanges requiring screws and bolts, or with threaded couplings. These are often difficult to assemble and disassemble, expensive to machine or undesirably heavy. Marman V-Band Couplings overcome all these objections. These carefully engineered devices employ positive clamping action around the joint with a quick acting screw takeup. They go on and off fast, are light in weight and require only a simple beaded or flanged end to provide a rigid high-strength seal.

Suitable flanges to accommodate a V-Band Coupling can be made integral with or added to the tubing or ducts to be joined. Rolled sheet metal flanges or machined flanges are equally adaptable. The joint can be used with or without a gasket.

Our catalog tells more . . . just write Dept. 1-7

MARMAN PRODUCTS CO. INC.
940 WEST FLORENCE AVENUE
INGLEWOOD, CALIFORNIA

BREVITY—Identify by IEN - 6668 if you write the maker

How to Solidly Anchor LOOSE BOLTS

Bolts with worn threads—undersize bolts in oversize holes—bolts passing through thin walls—bolts holding ill-fitting cast flanges—all can be tightened firmly with quick-setting Smooth-On No. 1 Iron Cement. Use it, too, to lock nuts tight, and to cover and protect countersunk bolt heads in metal or wood. These repairs stay tight because Smooth-On expands slightly as it hardens. Buy Smooth-On No. 1 in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size and keep it handy. If your supply house hasn't Smooth-On, write us.

FREE REPAIR HANDBOOK

40 Pages filled with time-saving, money-saving repairs on plant, shop and home equipment made with No. 1 and other Smooth-On Cements. Drop us a line for YOUR free copy.

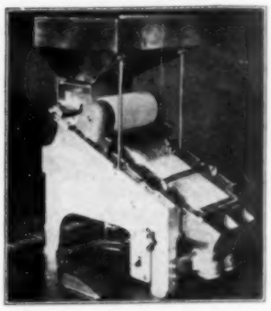
SMOOTH-ON MFG. CO., Dept. 1
570 Community Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON REPAIR CEMENT OF MANY USES

BREVITY—Identify by IEN - 6669 if you write the maker

PACKAGING . . Tablet machine designed to fill containers by count

Source: LAKSO CO.
40 Academy St., Fitchburg, Mass.



Tablets or capsules loaded into a hopper at the rear of this new Model 34 machine feed downward by gravity, move under a rubber-faced distributing roll into grooves leading to twin delivery spouts. Adjustments are provided to limit the forward movement for delivery of desired totals upon operating a foot switch. Containers are presented to a spout by hand.

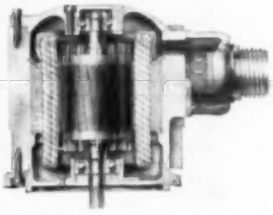
The machine is suited particularly for short production runs involving frequent cleaning and change-over. It can be set up for tablets from ¼ to ½ in. in diameter. It will handle 36 totals of 100 counts per min. in ¼-in. tablets or 20 per min. for 100 counts in ½-in. tablets. Several "drops" are made by successively depressing the control switch to fill a container with a large count. A control device for this purpose can be added to the machine to specification.

Overall dimensions are 15 by 24 by 27 inches. Weight is 85 lb. with a 1/20-hp. motor. The hopper will hold 35,000 five-grain tablets and can be refilled while the machine is operating. List price is about $1,420.

BREVITY—Identify by IEN - 6670 if you write the maker

MOTOR . . Explosion proof, lightweight ac, for aircraft service

Source: U. S. ELECTRICAL MOTORS INC.
202 E. Slauson Ave., Los Angeles 54, Calif.



The magnesium housing and the terminal box in this new Type SES-A motor are sealed so no chance spark can issue from the inside and no external fumes can reach the interior. The motor is intended for aircraft particularly but also is suited for industrial service where dangerous fumes or volatile materials may be present. The new design is one in a line of 400-cycle 3-phase ac. units rating ¼ to 16 hp. for operation at synchronous speeds of 6,000, 8,000, or 12,000 rpm. on intermittent or continuous duty.

The bearings are installed in inserts in the magnesium housing. They are pre-packed with lubricant and sealed so no service attention is required. The motor is available in a range of designs both for direct speed and gear reduction. A brake to engage when the motor circuit is open is available to specification. The operation does not involve radio interference. Illustrated details are contained in an 8 page bulletin, "U. S. Aircraft Motors, High Frequency Induction Type."

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 6671 if you write the maker

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

Sabotage is a danger which calls for vigilance day and night. Property line vigilance is the job for Page Chain Link Fence, now as it has been for more than 60 years. Consult the nearby, long-experienced Page Fence engineering and erecting firm, which will submit cost estimates without obligation. Name and address will be sent with illustrated fence data on request.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

BREVITY—Identify by IEN - 6672 if you write the maker

SPARE PARTS BOXES
to meet Government specifications
FOR ARMY AND NAVY ORDERS

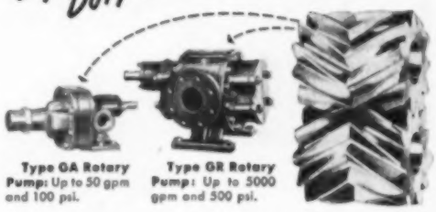
Many Army and Navy contracts require that spare parts be furnished in specially designed boxes. Stackbin has specialized in the fabrication of spare parts boxes to meet exacting Government specifications. The assemblage is complete, including all-welded sheet metal construction with proper fittings and hardware. In any quantity, in minimum time.

Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

BREVITY—Identify by IEN - 6673 if you write the maker

Light Duty or Heavy Duty



Type GA Rotary Pump: Up to 50 gpm and 100 psi.

Type GR Rotary Pump: Up to 5000 gpm and 500 psi.

Double Helical Herringbone Gear Rotors: Quiet and efficient; extra large wearing surfaces; no axial thrust; no trapping of liquid.

. . . The Same Sturdy Construction!

Both the light duty Type GA and the heavy duty Type GR incorporate the rugged herringbone rotors that operate so quietly and efficiently...combining with the whole advanced Worthington design for smoothest performance and longest, most economical rotary pump service. For further facts proving *there's more worth in Worthington*, write to *Worthington Pump and Machinery Corporation, Pump and Compressor Merchandising Division, Harrison, New Jersey.*

WORTHINGTON

P-G-3

BREVITY—Identify by IEN - 6674 if you write the maker

Conserve that Stainless!

If you possess any stainless steel of doubtful parentage, now is the time to identify it. Most stainless alloying elements are scarce—some have reached the critical stage.

Any mixed supplies of stainless steels you have in stock have become precious, and well worth sorting out.

To help you, Frasse engineering service has recently revised and reissued our Data Chart, Sec. A No. 3—which describes 10 simple methods for separating stainless from carbon and alloy steels, nickel stainless from moly grades, straight chrome from chrome nickel grades, etc. A detailed explanation of each testing method is also included.

The chart is printed on durable cardboard stock, regular file card size, and can be filed, tacked on a wall, or slipped under glass for speedy reference. Send the IENquiry for your free copy today.

for Stainless Steels Call FRASSE 1st

Bars • Sheets • Strip • Plates • Angles • Wire • Tubing • Pipe • Fittings

Peter A. FRASSE and Co., Inc.
17 Grand Street, New York 13, N. Y.
Jersey City • Philadelphia • Buffalo • Syracuse

BREVITY—Identify by IEN - 6675 if you write the maker

JOHNSON Electric Motor Bearings

EVERY Johnson EM Bearing is ready to install—machine finished inside diameter, outside diameter and ends. Flanges, oil holes, oil grooves, slots and tolerances are correct for every make of motor. Johnson EM Bearings are cast in SAE 67 Bronze, the right alloy for long, troublefree performance. Bearings for all makes are stocked by distributors and Johnson warehouses.

WRITE TODAY FOR CATALOG

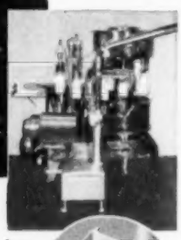
SLEEVE BEARING HEADQUARTERS Since 1901

Johnson Bronze

476 SOUTH MILL STREET • NEW CASTLE, PA.

BREVITY—Identify by IEN - 6676 if you write the maker

how to FEED MATERIALS ECONOMICALLY: use GAST rotary AIR PUMPS!



This unit, for example, seals milk bottles with Aluma-SEAL aluminum caps . . .

PROBLEM: Remove caps *one-at-a-time* from magazine, and hold ready to drop into feed chute.

SOLUTION: Suction cup with 20" to 22" vacuum, produced by positive-action Gast Rotary Air Pump.

RESULT: Dependable, low-cost operation from portable Gast unit in housing on floor.

Just for a moment, consider how you could apply low vacuum for feeding sheet materials and small parts of paper, fibre, plastic or light metal.

The possibilities are enormous for extra speed — extra savings — extra safety. And Gast Rotaries are giving excellent service on scores of common — and unusual — applications.

When you have problems that might be solved with low vacuum or pressure, write Gast. "Air may be your Answer!"

SEE OUR CATALOG IN SWEET'S FILE

Gast Application Ideas Booklet—showing 26 design problems solved — sent upon request.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS (TO THREE H.P.) (UP TO 15 LBS.) (TO 28 INCHES)

GAST MANUFACTURING CORP., 119 Hinkley St., Benton Harbor, Mich.

BREVITY—Identify by IEN - 6677 if you write the maker

You'll find these products in SAFE HANDS!

HANDEEZ

a must where hands come in contact with lubricating oils . . . Lifts shop grime from pores, gently but thoroughly. Contains a sterilized vegetable emollient which acts as an absorbent. Non-irritating . . . keeps skin free of cracks where dermatitis starts. In powder form — bulks BIG at low cost.

BORSUDS

A borated, soluble hand cleaner for heavy grime on tender skin. Contains finest medium and low filer soaps (the lower the filer the more quickly soluble the soap). Lathers richly even in fairly hard water, cannot clog drains.

VOLAX

Extra-heavy duty hand cleaner. Removes ground-in grime, printing ink, stubborn dirt. Contains friable volcanic ash.

DISPENSING EQUIPMENT AVAILABLE

See your DOLGE SERVICE MAN or write for literature.

dependable DOLGE

WESTPORT, CONNECTICUT

BREVITY—Identify by IEN - 6678 if you write the maker

VALVE . . Steel gate design, ¼ to 2 in. sizes, to 2,000 pounds

Source: AMERICAN CHAIN & CABLE CO. 927-31 Connecticut Ave., Bridgeport 2, Conn.

Bolted bonnet, captured joint with a soft-iron gasket between bonnet and body, stainless-steel gland bolts and nuts, two-piece gland and follower characterize the construction of this new wedge-type gate valve. It is made of forged steel and is tested under hydrostatic pressure to 2,500 pounds.

Work pressures range from 380 lb. in non-shock service at 1,000 deg. F. to 2,000 lb. at 100 deg. F. Air test at 100 lb. under water produces no leakage.

List price ranges from $20 for the ¼-in. valve to $75 for the 2-in. unit. Face-to-face dimension for threaded or socket-weld bodies is 2½ to 5⅞ inches. Weight is 2½ to 25 pounds.

BREVITY—Identify by IEN - 6679 if you write the maker

VENTILATING . . Cooler-heater unit for crane cabs also filters the air

Source: DRAVO CORP. Liberty & Fifth Aves., Pittsburgh 22, Pa.

Available for specified cranes

New assembly of a combination of cooling, heating and filtering equipment has been developed for use in crane cabs in which a heat-exchanger section is installed in the cab itself and a refrigerant-condenser section is placed outside on the crane in any convenient location. Normal assembly is for cooling and filtering the air to maintain a temperature of 80 to 85 deg. F. when outside ambient temperature is as high as 175 deg. F.

Heating action is subject to specification in which case the unit will keep the temperature in the cab at 68 to 75 deg. F. with an ambient outside temperature at zero. The new design is known as Split-Type Crane Cab Cooler. It will fit most standard crane cabs. Company will advise on application.

BREVITY—Identify by IEN - 6680 if you write the maker

TESTING . . Recording oscillograph designed for application in laboratory

Source: OFFNER ELECTRONICS INC. 5318-22 N. Kedzie Ave., Chicago 25, Ill.

Dynograph is a new direct-writing high-speed oscillograph for use with reluctance-type pick-ups to record rapid transients on a strip chart. The instrument will trace 6 records simultaneously on the chart. Pen deflection linearity is 1 per cent with pen response at 1/120th of a second. Sensitivity is 150 microvolts dc. per cm. of pen deflection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6681 if you write the maker

Say "CHESTER" FOR DEPENDABLE CHAIN HOISTS!

..particularly when you need "Specials" fast!

In addition to a standard line of Spur Gear and Differential Hoists —from ¼ to 25 tons— we can give fast service on Extended Hand Wheel types, Low Head Room Trolley Hoists, or other "Specials".

Send us your specifications. Or write for our complete catalog.

CHESTER HOIST DIVISION
The National Screw & Mfg. Co.
Lisbon, Ohio

BREVITY—Identify by IEN - 6682 if you write the maker

RAMSCO

FREE TURNING

BALL BEARING SWIVEL FITTINGS

FOR LIQUIDS, GASES, STEAM, AND OTHER CHEMICALS. HOT OR COLD SERVICE. CONTINUOUS OR OCCASIONAL ROTATION SERVICE.

360° FREE ROTATION—1, 2 AND 3 PLANES

Your particular piping problems solved. You name it—we have it. Over 500 sizes, types, styles. Sizes: ⅝" to 14" low pressure; ⅝" to 6" high pressure. Corrosive service or steam fittings 1000 psi. and temp. to 750°F., asbestos or Teflon packed. Low pressure fitting to 1000 psi. and temp. to 225° F. High pressure fittings to 15,000 psi. and temp. to 225° F. Gear driven types available.

Send for complete catalog and prices. State kind of service, pressure, temperature, pipe size and indicate style at left, threaded, flanged or weld ends.

RASMUSSEN MFG. CO.
12305 INDUSTRIAL AVENUE
HOLLYDALE, CALIFORNIA

RAMSCO

BREVITY—Identify by IEN - 6683 if you write the maker

The World's Most Efficient

CONCRETE DRILL

29 Std. Sizes — Wide Variety in Drill Shanks

TILDEN ROTARY KONKRETE KORE DRILLS

Revolutionary Tilden Drills available in 29 standard sizes, from 3/16" to 4". Larger sizes to 8" in diameter and lengths up to 36" made to special order. A variety of shank lengths and fittings make these drills versatile and efficient.

TOP PERFORMANCE: 200 inches of concrete drilled before resharpening—drills glass, flat steel and rock in concrete—drills up to 6 inches per minute—makes straight clean holes —uses ordinary electric drills for fast, quiet cutting action.

U. S. Pat. No. 2506474

Write now for illustrated catalog on Konkrete Kore Drills —the world's most efficient.

Tilden Tool MANUFACTURING COMPANY

Branch Offices: 289 LOS MOLINOS • SAN CLEMENTE, CALIF.
1995 N. Fair Oaks, Pasadena 3, Calif. • 144 W. Washington Blvd., Chicago 7, Ill.

BREVITY—Identify by IEN - 6684 if you write the maker

how to trap amperes and save circuits....

Amp-trap*

AMAZING NEW CURRENT LIMITER
100,000 rms AMPERES INTERRUPTING CAPACITY

TWO-WAY PROTECTION
Protects against *both* overloads and shorts on circuits up to 600 Volts AC or DC. Supplied in all standard ratings from 1 to 4,000 amps. Limits short circuit currents on circuits where available short circuit current may be as high as 200,000 amps.

STOPS SHORT CIRCUITS SHORT
Lightning fast Amp-trap is directly responsive to the *rate of short circuit current rise*. It is *as fast as the circuit is fast*. Provides positive overload and short circuit protection for switchgear, buss-ducts, motor starters, circuit breakers, current transformers. With Amp-trap you can now have low-cost protection for every service entrance on a network system.

APPROVALS
Listed by Underwriters Labs. Interrupting tests up to 202,000 amps @ 500V 60 Cycles witnessed and certified by Electrical Testing Laboratories, Inc.

FOR OLD OR NEW SYSTEMS
There is an Amp-trap for every application. They are easily installed and quickly adapted to new or old equipment. Cost is relatively low.

WRITE TODAY. SEND FOR FREE BOOKLET ON AMP-TRAP.

*Trade Mark Registered.

(You can get Amp-trap)

THE CHASE-SHAWMUT CO.
380 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS

BREVITY—Identify by IEN - 6685 if you write the maker

THIS IS IT!

World-wide recognition for this outstanding line of electric soldering irons—

HEXACON

—specified by the big names for the TOUGH JOBS!

WESTERN ELECTRIC
MINNEAPOLIS HONEYWELL
RADIO CORP. OF AMERICA
WESTINGHOUSE
STROMBERG CARLSON
EMERSON
KAISER
SPERRY
BENDIX
etc.

PLUG OR SCREW TIPS 40 to 700 Watts ⅛" to 1¾" Tip Dia.

Follow the leaders and you'll specify HEXACON! They'll efficiently solve your soldering problems too! Write for literature.

Here's the famous HATCHET TYPE

These irons feature better balance for reduced operator fatigue. Efficiency is stepped up, and quality of work is improved. The ideal iron for inaccessible and intricate jobs.

HEXACON ELECTRIC CO.
155 W. CLAY AVE. ROSELLE PARK, NEW JERSEY

BREVITY—Identify by IEN - 6686 if you write the maker

Settle Next Winter's HEATING PROBLEMS Now!

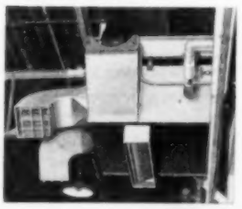
INSTALL

"Buffalo" UNIT HEATERS

QUICK HEAT FOR SMALL AREAS!

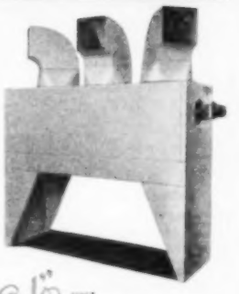
Plan now to wipe out any chilly areas that cramped production last winter. "Buffalo" Breezo-Fin Heaters are very easily installed in suspended position. They operate efficiently on as little as 2 lbs steam—are available in 20 sizes—have quality Aerofin heater element for maximum radiation and "Buffalo" Breezo Fan for positive heat throw. Now is the time to write for Bulletin 3137-D for the facts!

UP AND OUT OF THE WAY!



Another space-saver is the Suspended "Buffalo" Lowboy Heater, here supplying fresh, filtered, heated air to an entire room. As a window installation this unit is ideal in supplying makeup air for plants using large-capacity exhaust systems. Unit has high-efficiency non-corrosive Aerofin heater element and "Buffalo" mixed-flow fans on hollow shaft.

TO HEAT LARGE FLOOR AREAS!



The compact Highboy Heater, with readily adjustable outlets for louvers or duct connection, is simple to install as are all "Buffalo" Unit Heaters. Unit shown is equipped with by-pass damper and the same efficient coils and fans as the Lowboy above. Arrangements and combinations to fit *your* layout. Plan *now* for next winter—write for Bulletin 3704!

"Buffalo" FIRST FOR FANS

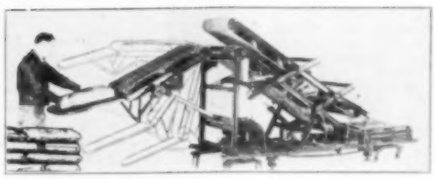
BUFFALO FORGE COMPANY
496 BROADWAY BUFFALO, NEW YORK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in All Principal Cities

VENTILATING | INDUCED DRAFT | HEATING
AIR WASHING | FORCED DRAFT | EXHAUSTING
AIR TEMPERING | COOLING | PRESSURE BLOWING

BREVITY—Identify by IEN - 6688 if you write the maker

CONVEYING . . Belt type machine for bags includes flattening section

Source: FLEXOVEYOR MFG. CO.
1218-22 S. Acoma St., Denver 10, Colo.



Bag Flattener designates new assembly of the company's portable spring-type belt conveyor in which coil springs operate over grooved steel rollers and a separate rocker-mounted belt section. Bags being handled for loading over the conveyor are carried under the rocker section to be flattened prior to delivery.

The result is a considerable reduction in height as compared with an unflattened bag. Delivery is to a platform that can be raised or lowered to conform with a pile height. Size, height, speed, load are to specification.

BREVITY—Identify by IEN - 6689 if you write the maker

THREADING . . T-handle tap wrench with nine hexagon socket adapters

Source: DAHLSTROM MFG. CO.
2516 Larpenteur Ave., St. Paul 8, Minn.

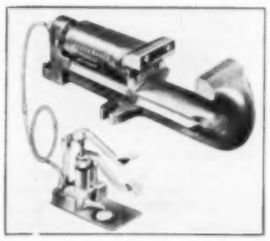
Parts made of steel

Tap sizes range from 8-32 to ¾ in. for a new T-handle tap wrench with a socket end to fit a series of nine hexagon adapters. List price is $17.50 for the wrench and the adapters as a set. The wrench alone lists at $3.

BREVITY—Identify by IEN - 6690 if you write the maker

VISE . . Foot operated hydraulic in two sizes, 5 and 7½ ton pressure

Source: STUDEBAKER MACHINE CO.
1235 S. 9th Ave., Maywood, Ill.



The company announces new design for the foot-operated pump employed with its hydraulic vise, previously described IEN-7843-47. The new assembly provides for quick approach by operating one of two pumping pedals and for pressure build-up by operating a second pedal. Release occurs when a third pedal is depressed to open the pressure line for reverse flow of the oil into the pump base.

Two sizes in the line have capacity to 5 and 7½ ton. Jaws measure 4¼ by 3 in. and open to 5 in. on the small unit. They measure 5¼ by 4½ in. and open to 7½ in. on the larger one.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6691 if you write the maker

NEW PERMANENT NON-SLIP

FIRM-GRIP Genuine NEOPRENE LATEX GLOVES

✔ Permanent NON-SLIP on all 5 Fingers and Palm
Highly efficient embossed surface is *integral part* of glove
✔ Impregnable to ACIDS, CAUSTICS, OILS
✔ Curved FINGERS for Comfort and Easy Use

No. 5740-5 LONG GAUNTLET
Length 14", Gauge .030 to .040
Sizes 9, 10, 10½, 11, 12
No. 5720-5 LIGHT DUTY
Length 10½", Gauge .017 to .020
Sizes 7, 7½, 8, 8½, 9, 9½, 10, 11

★ Write for sample and prices

SEIBERLING LATEX PRODUCTS CO.
AKRON 9, OHIO

200-5th Ave., New York
Merchandise Mart, Chicago

BREVITY—Identify by IEN - 6692 if you write the maker

"SMALL PARTS" Production Problems

Solves
RIVETING
PRESSING
STAKING
MARKING
PUNCHING
ASSEMBLING

- Electric push button control, hand or foot operated, through Hannifin's new exclusive fast-cycling 4-way solenoid valve.
- Guided ram. Speed easily adjustable. Automatic return.
- Removable steel base plate. Facilitates changing job set-ups through use of alternate work bases.
- Extremely rigid frame. Built to big press standards for quality.
- Cylinder "TRU-BORED" and honed. Long life. Minimum maintenance.

the New HANNIFIN "Han-D-Press" air operated!

ASK FOR NEW BULLETIN 251.

HANNIFIN CORPORATION, 1107 So. Kilbourn, Chicago 24, Ill.

BREVITY—Identify by IEN - 6693 if you write the maker

TRY IT FREE!

New Super-Powered IDEAL "Hand-Type" CLEANER

BLOWS . . . . concentrated blast of dry air at *300 miles per hour*. Blows grit, dust and lint from hard-to-get-at places. Evaporates moisture.
VACUUMS . . . dirt, metal, lint and wood particles, bench litter, etc.
SPRAYS . . . . paint, varnish, lacquer, insecticides and deodorants.

Regardless of your cleaning problem, the IDEAL Cleaner can do it better—faster! Has 1-1/3 h.p. motor. Weighs only 14½ lbs. Today's top value. Also 2/3 and 1/2 h.p. models.

Sold through America's Leading Distributors.

CLIP AND MAIL TODAY

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois
Give us a FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner in our plant.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

BREVITY—Identify by IEN - 6694 if you write the maker

Switch, Fuse AND Circuit Breaker PYLETS

WFR Series Safety Switch Pylets

CKJ Series Circuit Breaker Pylets.

For Reliable Service Under Most Severe Industrial Plant Operating Conditions

Heavy duty safety switches, fuse boxes with or without plug receptacles, and circuit breaker Pylets provide for reliable service under the most severe industrial plant operating conditions. WFR series safety switch Pylets have heavy cast metal case and cover, quick make and break mechanism interlocked with cover and with plug receptacle, and weathertight gaskets on both cover and hub plate. Safety switches without interlocking plug receptacles are also available. Circuit breaker Pylets, CKJ Series, are but one of the complete line of fuse and circuit breaker fittings, which offer features of sound design and substantial construction to assure reliable service. Consult your Pylet catalog 1100, Bul. 1150 for complete listings.

CONDUIT FITTINGS • FLOODLIGHTS
THE PYLE-NATIONAL COMPANY
1348 North Kostner Avenue • Chicago 51, Illinois

BREVITY—Identify by IEN - 6695 if you write the maker

SARCOSTAT

THE NEW HYDRAULIC OPERATOR

Operated by direct thrust of a neoprene-sealed plunger actuated by oil pressure—no pilots, gears or multiplying levers.

Available for open-and-shut or two-step control from any two wire switch—pressure, temperature, liquid level, etc.

Moisture proof and suitable for control of steam, water or air. The valve operating mechanism is adaptable for use in positioning of levers or dampers.

Full information in Bulletin 1081.

500

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

BREVITY—Identify by IEN - 6696 if you write the maker

The DRY SCRUBBER with the *Self-Sharpening* BRUSH FEATURE

Just flip the switch! That reverses the motion of the brushes of the *Finnell* Dry Scrubber and re-sharpens them automatically. Eliminates the need for frequent changing of brushes by hand in order to maintain a good cutting edge. This heavy duty *Finnell* cleans grease-caked floors in about *one-tenth* the man-hour time required when hand-spudding, and is far more thorough. Floating brush rings enable the two powerful scarifying brushes to get into indentations and grooves that rigid coupling brushes pass over and miss. The machine is adaptable to wet scrubbing, steel-wooling, waxing, and polishing. For free floor survey, consultation, or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 2607 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES
BRANCHES IN ALL PRINCIPAL CITIES

BREVITY—Identify by IEN - 6697 if you write the maker

HARPER *can tell you...*

because Harper deals in them *all!* Long experience and specialized production in all types and sizes of fastenings in *all* alloys mean just the right kinds for your needs—whether your problem is corrosion, abrasion, heat, stress, or appearance. Over 7000 items—bolts, screws, nuts, rivets and accessories—in stock ready for delivery from warehouses and distributors, nationwide. Send coupon for information and Corrosion Resistance Computer.

HARPER
EVERLASTING FASTENINGS

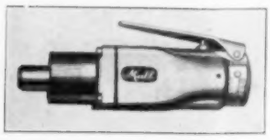
The H. M. Harper Co.,
8211 Lehigh Ave., Morton Grove, Ill.
Send my free copy of Corrosion Resistance Computer. (Please Print)
Name .....
Address .....
City ..... State .....

SPECIALISTS IN ALL NON-CORROSIVE METALS

BREVITY—Identify by IEN - 6698 if you write the maker

GRINDING . . Portable pneumatic tool for mounted wheels, speed to 26,000 rpm.

Source: MALL TOOL CO.
7782 S. Chicago Ave., Chicago 19, Ill.



List price is $65 for this new 12-oz. portable pneumatic grinder. It measures 4⅝ in. in length by 1¼ in. in width and takes eight sizes of Erickson precision collet for mounted wheel shanks from 1/64 to ¼ inch.

Control centers at a lever or a button-type throttle. A collet guard permits the operator to hold the tool close to the work in confined locations. A rotary-type pneumatic motor is mounted directly on the spindle. Speed control is by a built-in regulator. Exhaust is directed away from the operator to clean and cool the work.

BREVITY—Identify by IEN - 6699 if you write the maker

FLOORS . . Powdered plastic mixes with water for wood floor repair

Source: F. E. SCHUNDLER & CO.
502-6 Railroad St., Joliet, Ill.

Fire proof and oil resistant

Plastinail trade names new material supplied in powdered form to be mixed with water and troweled to a minimum thickness of ¾ in. over a worn wood floor. The material takes its name through the fact that nails can be driven through it. Its principal application has been in repair of freight-car floors where nailability is a requirement. The material is now offered for general industrial use in wood floor repair where the floor surface is subject to severe duty.

The dry material is mixed with water to troweling consistency and is applied over the wire mesh. In test application on a freight car, maintenance over a 2½-year operating period was limited to filling nail holes and gouges at a cost of about $16 during the test interval.

BREVITY—Identify by IEN - 6700 if you write the maker

HANDLING . . Special pulleys, chain or rope to ½ in., 200 lb. load

Source: THOMPSON ELECTRIC CO.
1103-37 Power Ave., Cleveland 14, Ohio

The company has assembled certain of the stock pulleys it uses on its overhead-disconnect electric lighting fixtures and now offers them as stock items for general use in a plant. The construction is corrosion resistant to permit use out of doors.

Each pulley mounts a molded composition wheel in a malleable-iron housing on a bronze axle. No lubrication is required. The housings are finished in baked black enamel. Various mountings are available in solid or swivel arrangement.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6701 if you write the maker

HARGRAVE Tested Tools

PREFERRED by INDUSTRY EVERYWHERE

INDIVIDUALLY POWER-TESTED FOR BETTER PERFORMANCE
SINCE 1879

"A Clamp For Every Purpose"

Also: CHISELS
PUNCHES
STAR DRILLS
BRACE WRENCHES
MASONRY DRILLS
WASHER CUTTERS

THE CINCINNATI TOOL CO.
1953 Waverly Ave., Cincinnati 12, Ohio

There is an Industrial Distributor stock near you

BREVITY—Identify by IEN - 6702 if you write the maker

32 Pages of Helpful Information on Dust Recovery Systems

If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this new Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve valuable plant space . . . how to get high recovery over a wide range of particle sizes, etc. *A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate.*

WESTERN Precipitation CORPORATION
ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS
Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. La SALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

BREVITY—Identify by IEN - 6703 if you write the maker

HAND HYDRAULIC PUMP

Single and Double Designs
To 20,000 P. S. I.

Interchangeable Pistons
⅛-½-¾ inch
★
Integral Release Valve
★
Dual Pump Unit Reservoir 360 cu. in.

Pressure range is 3,000 to 20,000 P.S.I. Pipe connections ¼" N.P.T. Handle length is 18 inches. Weight is 8 to 18 pounds. Unit can be bolted or welded into position.

WILLIAM S. PINE
1637 E. 22nd St., Los Angeles 11, Calif.

BREVITY—Identify by IEN - 6704 if you write the maker

Making a quality product is YOUR business.. Packaging it properly is OUR business!

THAT IS WHY . . .

so many companies with U. S. Government contracts requiring method IA-3, IA-8, IA-9, IIa, IIb or IIc type packaging in flexible barrier material, use AMSCO packaging equipment.

AMSCO equipment is specifically designed to properly fabricate, handle and seal barrier materials. During World War II, AMSCO pioneered in the development of dependable, diversified barrier packaging equipment.

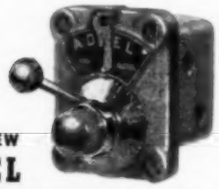
Avoid the danger of improper packaging and great loss of money by rejects. SEND FOR YOUR COPY of AMSCO BOOK "BARRIER TYPE" Packaging for U. S. Government orders. Available at no charge. Write Dept. IEN.

IMPORTANT

Many Government contracts specify packaging in Polyethylene, Cellophant or Pliofilm. AMSCO has equipment for fabricating, handling and sealing these materials.

AMSCO
PACKAGING MACHINERY, INC.
31-31 48th Avenue, Long Island City 1, N. Y.
Specialists in diversified Packaging Equipment

BREVITY—Identify by IEN - 6705 if you write the maker



THE NEW
ADEL
FLOW CONTROL VALVE
for Versatility...

Adjustable from completely shut off position to 25 G.P.M. maximum flow. Will maintain constant fluid flow and constant machine feed over a wide range of pressures and feed resistances.

This versatile and better valve can be used to advantage in innumerable hydraulic circuits and systems.

8 model variations are available—
$^3/_8$ in. Pipe Size—1, 2, 4 & 6 G.P.M. Flow Max. $^3/_4$ in. Pipe Size—10, 15 20 & 25 G.P.M. Flow Max.

CHARACTERISTICS

1 Valve is compensated type which maintains substantially a constant flow regardless of variation in inlet and outlet pressures.

2 Maximum recommended inlet pressure 1500 P.S.I.

3 Maximum recommended outlet pressure equals inlet pressure minus 100 P.S.I.

4 No drain line required.

5 Wide range of control lever rotation (270°) permits extremely accurate flow settings.

A few select territories are still available to progressive distributors of industrial hydraulic control equipment. Inquiries invited.

ADEL *Write for descriptive literature.*
DIVISION OF GENERAL METALS CORPORATION
10763 VAN OWEN STREET • BURBANK, CALIFORNIA

DISTRIBUTORS: AIR & HYDRAULIC ENGINEERING CO., NEW HAVEN, CONN. • RUSS CHAMBERLIN COMPANY, PORTLAND, OREGON • J. BOYD COATES, PHILADELPHIA, PA. • FRANK T. DONNELLY COMPANY, PITTSBURGH, PA. • HASKEL ENGINEERING & SUPPLY CO., SAN FRANCISCO, CALIF. • HASKEL ENGINEERING & SUPPLY CO., GLENDALE, CALIF. • HYDRAULIC BRAKE SUPPLY CO., PHOENIX, ARIZ. • LINCOLN SUPPLY CO., PROVIDENCE, R. I. • SCOTT EQUIPMENT AND ENGINEERING COMPANY, DAYTON, OHIO • H. F. SODERLING CO., SEATTLE, WASH. • ROBERT TAYLOR & SONS, SALT LAKE CITY, UTAH • WYATT SALES COMPANY, CLEVELAND, OHIO • CORBY SUPPLY COMPANY, ST. LOUIS, MO. • INDUSTRIAL AIR & HYDRAULIC EQUIPMENT CO., DETROIT, MICH. • HYDRAQUIP CORPORATION, HOUSTON, TEX.

BREVITY—Identify by IEN - 6706 if you write the maker

Preferred power for concrete vibrators and a wide range of other road-building and maintenance equipment — the world's most widely used single-cylinder gasoline engines on machines, tools, appliances for industry, construction, railroads, oil fields, and on equipment for farm and home.

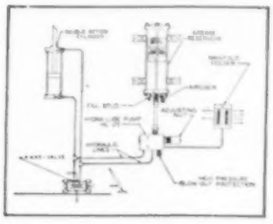
You buy with confidence when machines, tools, and appliances are powered by Briggs & Stratton — the recognized leader in single-cylinder, 4-cycle, air-cooled gasoline engines. Briggs & Stratton Corporation, Milwaukee 1, Wis., U. S. A.

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

BREVITY—Identify by IEN - 6708 if you write the maker

LUBRiCATING . . Hydraulic pump and reservoir to supply oil or grease

Source: TRABON ENGINEERING CORP.
1812-16 E. 40th St., Cleveland 3, Ohio



Hydra-Lube is a new pumping head that assembles with a reservoir to deliver grease or oil under pressure to a multiple outlet manifold to serve the company's Type M and Type MX lubricating equipment. The new pump applies on machinery that employs hydraulic pressure for operating purposes. Connections are made into the lines leading to the two ends of any double-acting hydraulic cylinder in the installation.

Each time the operating valve to the cylinder is set for cylinder movement the hydraulic lubricating pump will receive an impulse to deliver the lubricant to the manifold. Volume per stroke is adjustable at the pumping head for delivery between 0.1 and 0.25 cubic inch. This movement takes 0.8 cu. in. of hydraulic oil. Lubricant pressure developed by the pump is about three times the applied hydraulic pressure. The equipment is protected by a safety blow-out disc that releases when excessive pressure is imposed.

The reservoir is available in 3, 5 and 12-lb. capacities and can be supplied with a transparent-plastic or metal cylindrical housing. It is plain design for oil or is equipped with a spring-backed plunger to maintain pressure on the supply side when grease is being handled. Overall reservoir dimensions are $4^3/_8$ in. in head diameter by 16 to 17 in. in height.

BREVITY—Identify by IEN - 6709 if you write the maker

MONORAIL . . Motor driven tractor moves equipment along a monorail track

Source: CALABAR CORP.
8414-18 Otis St., South Gate, Calif.

New design of motor-driven tractor, previously described IEN-357-50, now employs a magnetically-operated clutch. It engages the drive wheel when power is on, disengages so the tractor can roll freely when power is shut off. As in the previous design, the unit will pull loads to 5 ton in reversible direction at any of nine speeds between 50 and 250 fpm. It is available in ½ and ¾-hp. ratings in which a motor drives the unit through a fluid transmission to start movement without jerking. A new free-wheeling design allows travel by hand for spotting.

Control centers in a magnetic reversing contactor to actuate the three-phase 110-volt motor in the standard design or a motor of other electrical characteristics to specification.

Application can be made on any monorail track ranging from 2 to 6¼ in. in flange width. The assembly is enclosed in a dust-proof aluminum housing. Its shafts are mounted on anti-friction bearings. Fluid Tractor is the designation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6710 if you write the maker

ROTARY CONCRETE DRILL BITS
for precision holes thru concrete in fraction of usual time

DRILL BILLY says: *"Drill thru any masonry with RCD Drill Bits"*

Not a precious second is wasted in drilling holes with the original RCD Concrete Drill Bit. Its pulverizing action takes the Bit through concrete, marble, or rock much faster and easier. This lowers time costs. Used with electric or air rotary drills. Standard sizes ¼" to 2" diameter. *Free factory re-sharpening until further notice.*

Send for new low prices and illustrated literature

Personalized guarantee given to every RCD Drill Bit user.

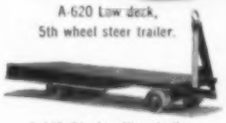
ROTARY CONCRETE DRILL CO.
642 S. Arroyo Parkway • Pasadena 1, Calif.

BREVITY—Identify by IEN - 6711 if you write the maker

HEAVY DUTY INDUSTRIAL TRAILERS

Standard or Special CAPACITIES TO 60,000 lbs.

A-620 Low deck, 5th wheel steer trailer.



A-443 Die handling trailer.

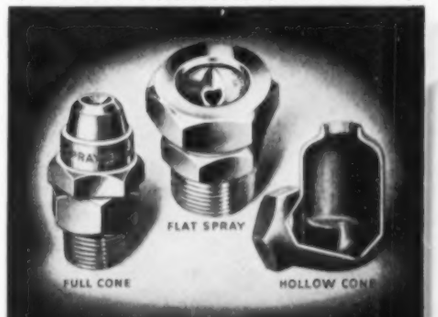
A-520
Medium height, 5th wheel steer trailer.

MERCURY

In addition to the standard "Type A-310" castor steer trailer, MERCURY offers a complete line of heavy duty trailers in castor steer, fifth wheel steer or four wheel steer designs in capacities to 60,000 lbs. As the world's largest producer of industrial trailers, Mercury is well equipped to fill your specific requirements. For complete information request Bulletins A-100 and A-999.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street, Chicago 9, Ill.

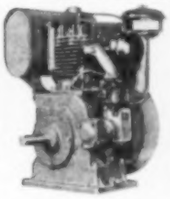
BREVITY—Identify by IEN - 6712 if you write the maker



SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

BREVITY—Identify by IEN - 6713 if you write the maker



Four Single-Cylinder WISCONSIN *Air-Cooled* ENGINES Offering More POWER ADVANTAGE, 6 to 9 hp.

This series of single-cylinder models have all of the traditional Wisconsin heavy-duty features such as self-cleaning tapered roller bearings at both ends of the crankshaft, rotary-type, high tension OUTSIDE magneto operating as an independent unit, and maximum torque at all usable speeds.

CONDENSED SPECIFICATIONS

MODELS		AEH	AFH	AGH	AHH
Bore	inches	3	3¼	3½	3⅝
Stroke	inches	3¼	4	4	4
Disp. cubic inches		23	33.2	38.5	41.3
H. P. and R.P.M. range		3.9 at 1600	6.0 at 1600	7.2 at 1600	7.7 at 1600
		6.1 at 2600	7.2 at 2200	8.4 at 2200	9.2 at 2200
Net weight in lbs., Standard Engine		130	180	180	180

Our engineering department will gladly cooperate with you in adapting Wisconsin Engines to your requirements. Write for detailed data and name of the nearest Wisconsin distributor.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy Duty, Air Cooled Engines
MILWAUKEE 46 WISCONSIN

BREVITY—Identify by IEN - 6714 if you write the maker

Fill'er Fuller Faster

New Hansen Tacker Feature . . .

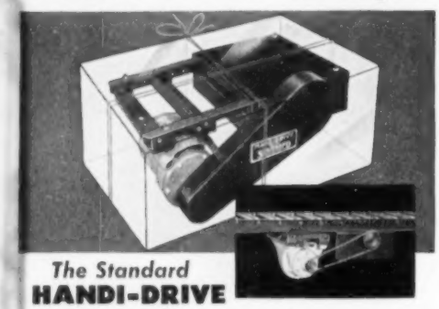
NOT a moment is wasted reloading a Hansen Tacker. Simply hook spring over catch, insert a strip of staples, replace spring in operating position. This feature speeds reloading and prevents spring damage. Learn about other Hansen features. REQUEST BOOKLET.

A. L. HANSEN MFG. CO. 5051 Ravenswood Ave. Chicago 40, Ill.

HANSEN ONE-HAND Hansen TACKERS

BREVITY—Identify by IEN - 6715 if you write the maker

"Power-Package" Unit for Roller and Belt Conveyors



The Standard HANDI-DRIVE

THIS self-contained drive unit provides tractive power for any gravity conveyor—belt or roller. Converts present conveyors to live roller or belt—quickly at low cost.

HANDI-DRIVE Bulletin No. IEN-71 gives complete information—how to apply to present conveyors or plan new system with standardized units—straight, curves, or inclines. Write for copy today.

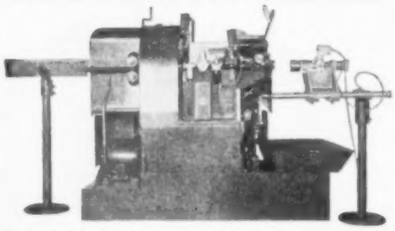
STANDARD CONVEYOR COMPANY, NORTH ST. PAUL 9, MINN.

SEND FOR HANDI-DRIVE BULLETIN.

Standard GRAVITY & POWER CONVEYORS

BREVITY—Identify by IEN - 6716 if you write the maker

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machine—*any length you want*. FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing — Cuts and Chamfers both outside edges of ½" .030 wall tubing, 5" lengths, every 2.5 seconds.

1¼" Cold Rolled — Cuts and Chamfers both ends, 36" long, at rate of 1 every 20 seconds.

1" Tubing — Cuts and Chamfers both outside edges, pieces 3" long. One every 3 seconds.

4" THREADED STUDS

Modern Automatic Cutting-Off Machines available in 2 sizes, handling work up to 3" O.D.

WRITE for CATALOG

Cut and chamfered at the time—in 8 seconds—from 10 ft. length of stock already threaded (¾" 8 N. Standard). Clean cut. Clean chamfer. Note thart easily, with no extra finishing required.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

BREVITY—Identify by IEN - 6717 if you write the maker

ADHESIVES . . Summary of specifications dealing with adhesives for Government applications

Swift & Co.
4200 Packers Ave., Chicago 9, Ill.

Tabular method is employed by new 16-page booklet in summarizing Government specifications. One column lists the specification title. A second lists the JAN, MIL or other specification number. A third describes the application. A fourth suggests one or more of the company's products. Ask for "Principal Joint Army-Navy, Military and Federal Specifications Requiring Adhesives."

BREVITY—Identify by IEN - 6718 if you write the maker

BEARINGS . . Useful information booklets on ball bearing mounting, lubrication, maintenance

Fafnir Bearing Co.
35-39 Booth St., New Britain, Conn.

Three new booklets are offered by the company to assist in correct application and maintenance of its ball bearings. Each contains sectional views, information on intended services, and a list of suggestions on handling and use.

Bulletin 419, 8 pages, presents mounting, lubrication and maintenance instructions for fixed and floating type ball-bearing pillow blocks with the company's wide-inner-ring bearing with notes on service at elevated temperatures.

Bulletin 420, 8 pages, contains similar instructions on wide-inner-ring power transmission units such as pillow blocks, lineshaft boxes, countershaft boxes, cylindrical and motor cartridges. Pictures illustrate dis-assembly instructions for units containing self-aligning bearings.

Bulletin 412, 6 pages, covers similar instructions on "Mechani-Seal" power transmission units.

BREVITY—Identify by IEN - 6719 if you write the maker

CASTINGS . . Booklet summarizes process of investment casting and its design possibilities

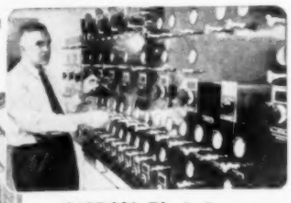
Hitchiner Mfg. Co.
P. O. Box 845-A, Manchester, N. H.

Outline of possibilities and limitations is presented in new 8-page folder, "There Is One Right Way," to serve as a guide to investment casting. The booklet can be unfolded to form a 22 by 11½-in. wall chart that shows a number of examples and lists six suggestions on designing for investment castings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6720 if you write the maker

Dr. Frits Went at Control Board of the Plant Laboratory

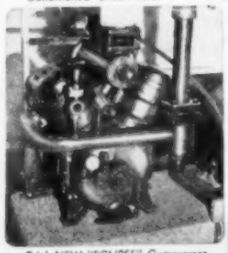


Inside One of the Six Air Conditioned Greenhouses

$407,000 Phytotron Laboratory Equipped with Frick Refrigeration

The great new plant research laboratory of the California Institute of Technology, of Pasadena, uses two Frick refrigerating machines for cooling four rooms and air conditioning 13 others, plus six greenhouses. Simulated weather conditions are automatically controlled with ease and accuracy. Installation by the Independent Refrigeration Co., Los Angeles.

Let us quote on the cooling equipment you need—whether for air conditioning, ice-making or other refrigeration work.



Frick NEW "ECLIPSE" Compressor at the Phytotron

FRICK CO. WAYNESBORO, PENNA. U.S.A.

Also Builders of Power Farming and Sawmill Machinery

BREVITY—Identify by IEN - 6721 if you write the maker

Cost conscious?

try Accurate Springs

Cost conscious purchasing agents, engineers and production men examining their sources of supply will do well to consider Accurate as a source for springs, wire forms and small stampings. We at Accurate have an enviable record of saving money for our customers. Our production "know-how" is backed by a modern plant equipped with the very latest cost-cutting springmaking machines to produce uniformly accurate components for your product.

We would welcome the opportunity to show you what we have done for others and what we can do for you. Give us a ring or write us today.

Ask for the Accurate Spring Handbook

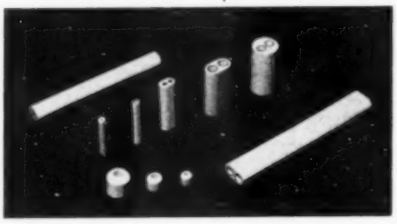
ACCURATE SPRING MFG. CO.
3807 W. LAKE STREET CHICAGO 24, ILLINOIS

Springs Accurate Springs Wire Forms • Stampings

BREVITY—Identify by IEN - 6722 if you write the maker

THERMOCOUPLE WIRE INSULATORS

Immediate Delivery • 200 Stock Sizes



Made from high grade Ceramic Material. Will withstand sudden heating and cooling. Heat shock resistant material. Very hard and wear resistant.

Single hole, double hole round and oval styles. Special sizes to customers' specifications.

Our new plant equipped with modern machinery enables us to maintain High Grade Electrical Properties and close dimensional tolerances.

No order too small or too large.

Send us your blue print or specifications.

Du-Co Ceramics Company

Manufacturers of Steatite, Electrical and Refractory Porcelain

Du-Co Building Saxonburg, Pa.

BREVITY—Identify by IEN - 6723 if you write the maker

ANY RPM by dial control

NEW TYPE VA ¼ to ¾ hp

VARIDRIVE

An all-in-one power drive, performing the work of a motor, speed changer, cone pulleys, rheostat or controller and gear box. Compact. Light weight. All the speeds you want, instantly, by turning a dial. Low-priced. Asbestos-protected windings. ¼ to 10,000 rpm.

US MOTORS

Write for Bulletin 1601

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Cal. Milford, Conn.

BREVITY—Identify by IEN - 6724 if you write the maker

TEFLON
EXPANSION JOINTS

TOUGH — HEAT-RESISTANT
ABSOLUTELY CHEMICAL-PROOF

If your problem is thermal expansion, vibration, misalignment or any other condition demanding a flexible, chemical-proof piping section, then USG's Chemiseal Teflon Expansion Joints can save you money. They're tough, long-lasting and completely impervious to chemical attack.

Fabricated by a special USG process, Chemiseal Expansion Joints accommodate axial contraction and expansion or any reasonable amount of misalignment or vibration without danger of cracking or bursting. They're designed for 25 lb. pressure and are serviceable in a wide temperature range (—150° F. to 400° F.). Remember—Teflon is so inert chemically that it *cannot be affected by nor contaminate* any known chemical used commercially.

Chemiseal Teflon Expansion Joints are available for any type of equipment and for a wide variety of operating conditions. Joints are normally supplied with suitable combination flanges and gaskets drilled to 150 lb. A.S.M.E. standard. Exact requirements must be specified, so we'll be glad to send you Catalog No. 212 containing complete information.

Teflon Products Division
UNITED STATES GASKET COMPANY
658 N. 10TH STREET CAMDEN, NEW JERSEY

BREVITY—Identify by IEN - 6725 if you write the maker

B.F.Goodrich

analysis shows you *HOW* to lengthen industrial tire life

IF YOU'RE interested in this, The B. F. Goodrich Company wants to put a trained man at your service — without obligation. Your local BFG representative has been specially trained to analyze industrial tire operations and to make impartial recommendations regarding size, type, care and maintenance. These recommendations are valuable to you. In many cases, industrial tire life has been increased as much as 100%! The recommendations this tire and wheel analysis man makes are impartial and unbiased because the B. F. Goodrich line is complete (solids, semi-pneumatics, pneumatics) and comes in a wide range of sizes.

Call your B. F. Goodrich man today. Let him survey your operation . . . study loads, hauls, equipment, hauling surfaces and floors. Then let him offer his suggestions. Extra service from your industrial tires is yours for the asking.

A similar program is available for the manufacturers of industrial hauling equipment.

Write for full details of the

TIRE AND WHEEL ANALYSIS PLAN

at no obligation

The B. F. Goodrich Co.
Department TW-119
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.
Name
Title
Company
City State

B.F.Goodrich

NEWS NOTES—Continued

"Suggestions on how to apply cutting fluids"

BREVITY—Identify by IEN - 6727 if you write the maker

CHEMICALS . . Booklet on hydrogen peroxide describes how to handle, use and test the material

Pennsylvania Salt Mfg. Co.
1002 Widener Bldg., Philadelphia 7, Pa.

Non-technical presentation is employed in new 36-page booklet, "Hydrogen Peroxide," to describe the material as to its practical application. How to use it in bleaching fabrics, fats, waxes, leather, groundwood comprises the initial section. This is followed by information on handling, storage and shipment. Final section covers preparation and analysis of hydrogen-peroxide solutions.

BREVITY—Identify by IEN - 6728 if you write the maker

CLEANING . . How vapor degreasing works described in new booklet on nonflammable solvents

E. I. duPont deNemours & Co.
Room 2518, Nemours Bldg., Wilmington 98, Del.

Sequence drawings show how vapor degreasing of metal parts is accomplished, other drawings show how various types of degreasing machines operate, pictures show scope of products that can be degreased, all in new 16-page booklet, "Vapor Degreasing with DuPont Nonflammable Solvents." Methods are described for degreasing by trichlorethylene and perchlorethylene solvents which the company can supply.

BREVITY—Identify by IEN - 6729 if you write the maker

CLEANING . . Instruction sheets on how to clean metals for black oxide finishing

Oakite Products Inc.
116A Thames St., New York 6, N. Y.

Recommended materials and procedures are presented in new 4-sheet typewritten report, "Surface Preparation of Metals for Black Oxide Finishing". It covers cleaning and electrocleaning, scale removal, ferrous and non-ferrous metals, treatment after black finishing, stripping of defective parts.

BREVITY—Identify by IEN - 6730 if you write the maker

COMMUNICATING . . For Civil Defense, booklet summarizes available equipment and its use

General Electric Co.
1949 Electronics Park, Syracuse 1, N. Y.

Picture summary of typical communication equipment that can be tied into emergency use is presented in new 12-page Bulletin G-93-122. Title is "Help with Your Community's Civil Defense Communications". Radio broadcast, television, two-way and mobile radio, microwave equipment are examples.

BREVITY—Identify by IEN - 6731 if you write the maker

CUTTING . . Technical article reprint on how to use cutting fluids in machining work

Cincinnati Milling & Grinding Machines Inc.
Marburg & Kline Sts., Cincinnati 9, Ohio

Suggestions on how to apply cutting fluids for turning, boring, milling, broaching, grinding operations are described in new 8-page reprint from the technical literature. The article states a rule that gallons of cutting fluid per minute equals maximum horsepower required for cut. Drawings and pictures show application. Ask for Bulletin M-1739.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6732 if you write the maker

Its all in the *Heat Treatment*

ORIGINATORS OF THE SUPER SAFE STEEL STAMPS

The "Tough" back to absorb hammer blows without crushing or distorting —The "SOFT" center to cushion the shock — The "HARD" tip to insure cleaner impressions and a longer lasting stamp make the RICK the better safer stamp. These stamps are made in ANY type to fit ANY holder.

WRITE TODAY for ADDITIONAL INFORMATION

We are also manufacturers of—
- Special branding and knurling wheels .
- Engraved plastic molds . . .
- Name stamps . . .
- Designs and trade marks . . .
- Embossing dies . . .
- Various Marking Dies and Tools

PITTSBURGH STENCIL and TOOL COMPANY
REEDSDALE and SCOTLAND STREETS
PITTSBURGH 12, PA.

BREVITY—Identify by IEN - 6733 if you write the maker

STEVENS SELENIUM RECTIFIER FOR PLATING AT HIGHER CURRENT DENSITIES

The Stevens Selenium Rectifier is a precision-built rectifying unit designed to stand up under hard usage at high voltages. It is a compact unit which incorporates approximately 6,000 square inches of rectifying area within its sturdy steel cabinet. Stevens Selenium Rectifiers are easy to install and operate—they're economical in both initial cost and operation—since they have no moving parts, maintenance is eliminated. They're adaptable to all types of circuits and loads. Available in three capacities. Ask your Stevens representative for detailed information or write for literature to *Frederic B. Stevens, Inc., Detroit 16, Michigan.*

FREDERIC B. STEVENS INCORPORATED
DETROIT 16, MICHIGAN

BREVITY—Identify by IEN - 6734 if you write the maker

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

BREVITY—Identify by IEN - 6735 if you write the maker

FOR FINER APPEARANCE, PERMANENT READABILITY

Identify your products with metal name plates by

CHICAGO THRIFT-ETCHING CORPORATION

We'll gladly quote, without obligation to you, on your requirements for name plates, instruction plates, dials, panels, scales, etc. We are equipped also to apply special finishes to aluminum products and parts, including ANODIZING by the exclusive Alumilite process. Write today for detailed information and quotations.

CHICAGO THRIFT-ETCHING CORPORATION
1555 North Sheffield Avenue, Chicago 22, Ill., Dept. F
SUBSIDIARY OF DODGE MFG. CORPORATION, MISHAWAKA, IND.

BREVITY—Identify by IEN - 6736 if you write the maker

Carter

CUTS COSTS WAY DOWN!

CARTER RIGID WHEELS & TIRES

Carter rigid Wheels and 30" & 36" Quick-Change Tires are for heavy-duty high-speed operations. Tires won't throw even at 1800 r.p.m. Changed in 10 min. 20 years service on best machines. Carter products universally accepted as standard equipment by leading bandsaw manufacturers.

Write—
For free illustrated folder!

CARTER PRODUCTS COMPANY INC.
57 Mount Vernon, N. W. Grand Rapids 4, Mich.

BREVITY—Identify by IEN - 6737 if you write the maker

NEW CLASS I PANELBOARD IS FIRST WITH PLUG-IN BREAKER

Trumbull's new line of NLTQ Panelboards introduces the first *plug-in* circuit breaker with quick-make, quick-break. Also: thermal-magnetic protected, physically interchangeable breakers.

OTHER NEW FEATURES
Interior—spring-mounted, self-aligning.
Molded-in-plastisol busbar and stab assembly.
Sequence phasing—in all sizes

Write for Bulletin TEB-14, THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL ELECTRIC

BREVITY—Identify by IEN - 6738 if you write the maker

The simplicity of HONEYWELL 3-WAY TRANSFER VALVES will SAVE YOU MONEY and SPACE

THE HONEYWELL transfer valve is a simple, compact valve designed for diverting flow from one line to another—such as cooling water from one condenser to another or oil from one strainer to another. It replaces two conventional valves and fittings. Operates by movement of single lever . . . no chance of opening or closing both lines simultaneously.

Sizes 1½ to 8 inches . . . straight-way or three-way . . . screwed or flanged. Available in high tensile iron with iron or bronze trim; bronze with bronze trim. Other materials and larger sizes on request. Body ratings 125-150 lbs. ASA facing and drilling. Maximum inlet pressures 30 psi to 10 psi. Cost is low . . . act quickly.

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY, *Industrial Division*, 1911 Windrim Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

Honeywell VALVE PRODUCTS

NEWS NOTES—Continued

"Maintenance suggestions on clamshell buckets"

BREVITY—Identify by IEN - 6739 if you write the maker

FINANCING . . Brochure comments on conditions after business owner's death, offers "carry-on" services

Eisemann Industrial Corporation
1819 Broadway, New York 23, N. Y.

Four-page brochure, "Will Your Business be Destructively Liquidated", suggests services the company offers on a contingent basis as financial counsel to assist a company to avoid liquidation and to carry on after the owner's death.

BREVITY—Identify by IEN - 6740 if you write the maker

GRINDING . . Color sound film on abrasives and grinding-wheel manufacture

Norton Co.
36 New Bond St., Worcester 6, Mass.

Steps are traced from mine to finished product in new 16-mm color sound motion picture, "Grits that Grind", available on loan for group showing. Running time is 30 minutes. The film shows manufacture of aluminum-oxide and silicon-carbide abrasives and how grinding wheels are made.

BREVITY—Identify by IEN - 6741 if you write the maker

HANDLING . . Maintenance suggestions on clamshell buckets along with operating instructions

Blaw-Knox Co.
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

Bulletin 2373, 40 pages, describes use and abuse of clamshell buckets, operating instructions, how to reeve buckets, welding procedure to repair worn parts, dis-assembly and replacement instructions, lubrication, adjustment to prevent opening shock, conversion instructions from hand to automatic dumping, suggestions on prolonging cable life.

BREVITY—Identify by IEN - 6742 if you write the maker

HEAT TREATING . . House publication now available to others than Institute members

Metal Treating Institute
269-73 North Ave., New Rochelle, N. Y.

New policy has been established for the circulation of "Metal Treating", official journal of the Institute. You now can request addition of your name to the mailing list without charge whether or not you are a member. The publication contains technical information on heat treating, new developments, news of the industry. It is issued every other month.

BREVITY—Identify by IEN - 6743 if you write the maker

MANAGEMENT . . Why businesses fail described in new 16-page booklet of statistics

Dun & Bradstreet Inc.
290 Broadway, New York 8, N. Y.

Analysis of business failures during 1950 is presented in new booklet, "Survival Qualities of American Business", available on request. One of the points brought out is that the first five years of a business are the hardest. Underlying and apparent causes of failure are tabulated in a section on why some businesses succeed and others fail. You may be interested to see the reasons.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6744 if you write the maker

THE MATEER ELECTRIC FILLER HANDLES THEM ALL!

LIQUIDS · OILS · POWDERS · PASTES

COMBINED LIQUIDS AND SOLIDS
1/500 oz. to 2 Pounds
20 to 70 Per Minute
Up to 750° F.

SAVE TIME AND MONEY WITH THE MATEER ALL ELECTRIC FILLING HEAD

Totally enclosed, manual or automatic. Accuracy as close as ±½%. Synchronize this self contained filling head with existing production lines and processing systems.

Jacketed and electrically heated hoppers available for handling cold and hot materials up to 750° F.

Hot waxes, insulating compounds and asphalts handled without difficulty.

Send full information and samples of material to be tested. Write Dept. 106 for fully illustrated bulletin.

G. DIEHL MATEER & CO.
Lincoln Highway • Devon, Pa.

BREVITY—Identify by IEN - 6745 if you write the maker

A complete variable speed power plant in single unit

Combines motor, REEVES speed varying mechanism, and speed reducer in one, space-saving unit.

REEVES VARI-SPEED MOTODRIVE

To new machines or old, REEVES Vari-Speed Motodrive brings all the benefits of stepless speed adjustability. Available with any standard, constant-speed, foot-type motor—no special motors to stock. Horizontal and vertical models, 1 to 20 hp; 2:1 through 6:1 speed ratios; fractional hp sizes in speed ratios through 10:1; manual or automatic controls. Assures *positive, accurate* speed changes without stops—easily applied to machines in service—proved in 300,000 installations. Send for free catalog No. IN 72-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

BREVITY—Identify by IEN - 6746 if you write the maker

IT'S HERE!

Grafo R-3

A Smokeless Colloidal Graphite
FORGING COMPOUND
that
Increases die life
Insures surface quality
Eliminates fire hazards

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available For All Industrial Lubrication

"Grafo" Colloidal Graphite may be obtained in water, petroleum oil, castor oil, in concentrated, semi-concentrated and ready-to-use mediums.

Write Us Regarding Your Special Applications

GRAFO COLLOIDS CORPORATION
MANUFACTURERS OF COLLOIDAL PRODUCTS
SHARON, PENNSYLVANIA

BREVITY—Identify by IEN - 6747 if you write the maker

BETA CHART PENS

...HOLD 2 to 4 TIMES MORE INK

Beta Fountain Pens hold two to four times the ink of ordinary chart inking pens. Regardless of the line thickness Beta Pens produce a smooth unbroken and uniform line. Pens shown are approximately actual size and can be arranged to reduce time interval between static and differential lines to only a few minutes. Beta Pens are especially suitable for seven day records. Price $1.10 (lower prices in quantities).

Send for bulletin No. 110.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

Available for Early Delivery

▼ BREVITY—Identify by IEN - 6748 if you write the maker ▼

Light IN WEIGHT...

Right IN PRICE!

AO R9100 TYPE RESPIRATOR

The low cost of this BUREAU OF MINES APPROVED Respirator has always appealed in dusty operations where a soundly made respirator of simple construction is adequate.

It protects against *pneumoconiosis-producing* and *nuisance dusts* such as aluminum, borax, carbon, cement, charcoal, coke, flour, glass, grain, graphite, gypsum, limestone, pollen and wood. Companion respirator R9100T should be specified for dusts not significantly more toxic than lead, such as barium, cadmium, lead arsenate, manganese and organic dusts—also for protection against DDT and insecticide sprays of similar potency. Your nearest AO Safety Products Representative can supply you.

American Optical SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

▼ BREVITY—Identify by IEN - 6749 if you write the maker ▼

How one Pittsburgh Brush*

POLISHES 10,000 HEATING UNITS

** An actual case history from The Edwin L. Wiegand Company, producers of CHROMALOX Heating Units.*

WHEN this company needed a way to take the ragged edges off heating units economically and *fast*, they turned to sturdy, tough Pittsburgh Brushes for the answer. The 6" Pittsburgh steel wire brushes like that shown above polish 10,000 heating units during their life.

LET PITTSBURGH ENGINEERS SOLVE YOUR BRUSH PROBLEMS

Pittsburgh's complete line of brushes of every type, for every purpose, will provide a practical, economical solution of any brush problem you might have. Drop us a line on your company letterhead for a copy of our new booklet that shows, through actual case histories, how Pittsburgh can help cut your brushing operation costs. Address: PITTSBURGH PLATE GLASS COMPANY, *Brush Div.*, Dept. M-5, 3221 Frederick Ave., Baltimore 29, Md.

PITTSBURGH

Power Driven BRUSHES

BRUSHES • PAINT • GLASS • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

▼ BREVITY—Identify by IEN - 6751 if you write the maker ▼

CRANE . . Hand hydraulic assembly, wheel mounted, 5,000 lb. at 4 ft. reach

Source: ALLIED MFG. & SALES CO.
3103 W. Grand Ave., Chicago 22, Ill.

Lift height is to 116 in. on this new Model-SC crane. It employs a winch on the load line and a hand-hydraulic jack on the boom support. This jack can be employed to position a load exactly after it has been raised to approximate position by turning the winch handle. Seven turns on this handle raises the load 1 ft. when the load line is carried through a block as shown in the illustration. Mounting is on 8-in. roller-bearing wheels.

▼ BREVITY—Identify by IEN - 6752 if you write the maker ▼

STEEL . . Alloying process for corrosion and heat resistant steels

Source: CARPENTER STEEL CO.
351 W. Bern St., Reading, Pa.

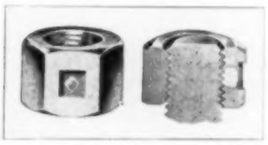
Available for licensing

Misch Metal containing cerium or lanthanum, or both, is employed by the company in a new patented alloying process to make certain types of corrosion-resistant and heat-resistant steels subject to hot working. These steels then become useful in manufacture of heat-resistant baffles and shields, parts for jet and turbo-jet aircraft engines, heat and corrosion-resistant valves for internal-combustion engines. The steels can be forged or rolled into shapes such as sheet, rod, tube.

▼ BREVITY—Identify by IEN - 6753 if you write the maker ▼

FASTENING . . Hexagon nut carries nylon locking plug inside

Source: TOWNSEND CO.
49 Industrial St., Dept. 116, New Brighton, Pa.



Sizes are ¼ to ⅜ in. in American Standards E-6 and E-7 Series in this new locknut which the company is licensed to manufacture under the Nylock Corporation's patent. Feature of the nut is the nylon-plug insert reaching through one face to the threads. This plug grips the bolt thread when the nut is turned into position, prevents it from backing off. It regains its shape when the nut has been removed with a wrench so it can be used repeatedly. The plug remains serviceable in a temperature range between minus 400 and plus 250 deg. F. It is not subject to attack by alcohol, gasoline, oil and will not dry out or shrink with age.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 6754 if you write the maker ▼

TAC does what no other tool can do!

AT LAST! AN OPEN-END RATCHET WRENCH — the world's first true universal wrench. A patented design for connections on tubing, rods, piping, conduit, studs, etc. Sixty-four socket sizes from ⅜" to 4". Smallest effective ratcheting arc yet — 5° to 7½°. TAC will also do every job any ordinary ratchet wrench will do: one TAC set replaces literally dozens of single-purpose hand tools.

makers of advanced tools for industry

TAC

TAC is the registered trademark of

TUBING APPLIANCE CO.
7112 South Victoria • 10321 Anza Ave. • Los Angeles, Calif.

▼ BREVITY—Identify by IEN - 6755 if you write the maker ▼

Be fresh... Stay fresh

wear a

DUPOR No. 4

THE RESPIRATOR FOR DUST, FUMES, PAINT SPRAY

Double filters provide easy breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Has patented DUPOR valves for "controlled breathing," and panorama view without blind spots. A prime favorite for years!

Sample sent

$1.85 ppd

H. S. COVER, South Bend, Ind.

▼ BREVITY—Identify by IEN - 6756 if you write the maker ▼

FAST, NEW METHOD FOR SANDING FILLER ON CASTINGS

Sundstrand *Straight-Line Action* Air Sander saves time...gives more uniform finish!

Here's the proven, *better* way to sand filler on castings. New Sundstrand Single Pad Air Sander gives a fast cut . . . quickly, evenly removes high spots . . . and because of its compact size and *straight-line action* gets into close quarters, up next to edges and moldings. Results in exceptionally fine finish . . . ideal for many other sanding operations on wood, metal, or plastics.

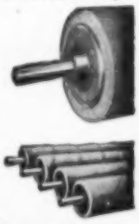
SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

▼ BREVITY—Identify by IEN - 6757 if you write the maker ▼

MANY INDUSTRIAL ROLL PROBLEMS are solved by using



SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

Industrial Roll Division

RODNEY HUNT MACHINE CO.
173 Main Street, Orange, Mass.

*Reg. U. S. Pat. Off.

BREVITY—Identify by IEN - 6758 if you write the maker

Anderson BALANCING WAYS

Shops handling rotating parts find this simple, sturdy and thoroughly dependable device highly efficient for balancing and truing operations. It assures better work . . . saves time . . . saves labor. No leveling required.

Four chilled iron discs rotate with minimum friction on sensitive special bearings, giving a quick, accurate indication of whether or not the work is in perfect balance

Swing	Greatest Distance Between Standards	Capacity in lbs.
20 in.	20 in.	1,000
40 in.	30 in.	2,000
60 in.	30 in.	2,000
72 in.	66 in.	5,000
96 in.	88 in.	10,000

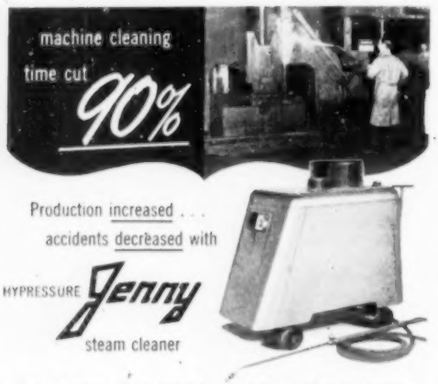
ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

Write for Bulletin No. 7-35

ANDERSON BROS. MFG. CO., Rockford, Ill.

Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters, Hand and Power Hydraulic Straightening Presses.

BREVITY—Identify by IEN - 6759 if you write the maker



Production increased . . . accidents decreased with

HYPRESSURE Jenny steam cleaner

Here are actual savings reported by four prominent manufacturers* who switched from hand cleaning to *Hypressure Jenny Steam Cleaning.*

MACHINE	Hand Cleaning	Hypressure Jenny Steam Cleaning	Man-Hours Saved
40 Ton Toggle Press	64 hrs.	3 hrs.	61 hrs.
72" Calender Machine	48 hrs.	5 hrs.	43 hrs.
Auto. Screw Machine	49 hrs.	5 hrs.	44 hrs.

*Names on request.

And keep in mind that they represent economies in actual cleaning time only. Additional savings of up to 40% in repair costs, less "down-time" for production machinery, and fewer lost-time accidents, invariably result when machinery, tools, equipment and floors are kept clean and free of dangerous, speed-retarding dirt and grease.

Complete details are yours for the asking. Write today.

HYPRESSURE JENNY DIVISION

HOMESTEAD VALVE MANUFACTURING CO.

P. O. BOX 85 Serving since 1902 CORAOPOLIS, PA.

BREVITY—Identify by IEN - 6760 if you write the maker

power modernization

conserves manpower and materials

Ask for your copy

of pictorial bulletin No. D-62

showing how and where Sterling Electric Power Drives increase productivity of men and machines—control quality—eliminate waste—save space—provide versatile mounting—cost less to install and use.

STERLING ELECTRIC MOTORS

Plants: New York 51, N. Y.; Los Angeles 22, California; Hamilton, Canada; Santiago, Chile. Offices and distributors in all principal cities.

NEWS NOTES—Continued

"Examples of financial reports for employees"

BREVITY—Identify by IEN - 6761 if you write the maker

MANAGEMENT . . Financial report for employees presents the figures in readily-understood manner

B. F. Goodrich Co.
448-52 S. Main St., Akron 11, Ohio

1950 Annual Report is an 8-page bulletin mailed to each of the company's 41,000 employees. It stresses the importance of three groups of people to the company: its customers, its stockholders and its employees. Progress made during 1950, benefit programs for employees, and a service honor roll are included in the presentation.

Figures from the standard financial statement are presented as a two-page condensed summary in understandable form. They are grouped under headings of what was taken in, what was paid to outsiders, what was set aside to be paid, and what was left to pay within the company. The figures also are listed in three columns for dollar totals, for percent of total income, and for dollars per employee.

BREVITY—Identify by IEN - 6762 if you write the maker

MANAGEMENT . . Financial report for employees presents the figures in readily-understood manner

Donaldson Co.
664-68 Pelham Blvd., St. Paul 4, Minn.

Informal presentation of the company's 1950 Operations Report starts with a typewritten letter to "Dear Fellow-Worker" on the outside of a 4-page folder. The letter is written by the company's president, Frank Donaldson, Jr. It describes the organization and introduces the financial figures on the pages following.

Manner of treatment parallels the pattern developed by the American Economic Foundation in its "Functional Operating Report". It describes what was received from customers, cost of goods and services bought from others, cost of tools wearing out, cost of payments ordered by the government, cost of human energy, and cost of using the tools. Notes under each grouping tell what the figures mean to each employee.

BREVITY—Identify by IEN - 6763 if you write the maker

MANAGEMENT . . Financial report for employees presents the figures in readily-understood manner

Univis Lens Co.
403 Leo St., Dayton 1, Ohio

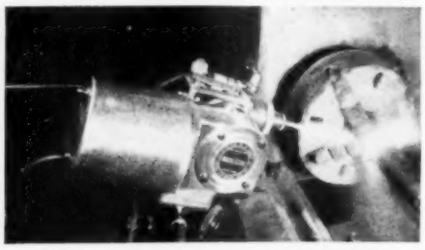
A letter from the company's president to all members of the organization forms the front cover of 8-page "Univis in 1950". It stresses the benefits received by customers, employees and stockholders from the company's 1950 operations. Inside is a set of graphs on average hourly earnings, comparative product price increase, and net sales figures from 1941 to 1950 inclusive.

Balance of the report follows the pattern developed by the American Economic Foundation in its "Functional Operating Report". It tabulates total dollars, per cent and dollars per employee for the money taken in, and gives a detail breakdown on how this money was divided into cost of human energy, cost of goods and services bought from others, cost of tools wearing out, cost of payments ordered by the Government, cost of using the tools.

Note: These last two financial reports are based upon the pattern laid down by the American Economic Foundation in its "Functional Operating Report", previously described IEN-12126-47. You can secure a copy of the 24-page report, list price $1, from the Foundation at 295 Madison Ave., New York 17, N. Y.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6764 if you write the maker



Rebuild Worn Parts by *Metallizing*

Save time, money and critical parts by Metallizing with new Mogulectric Gun. Adds metal to metal with fine atomization for perfect bond. Simplified, easy to use, engineered to give trouble-free service.

Also ideal for spraying corrosion-resistant metal coatings and for production work.

If you already have metallizing equipment, why not consider a trade-in now for the new Mogulectric Gun.

Write for new booklet containing complete information on equipment as well as production and maintenance applications.

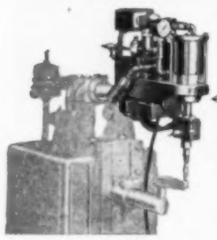
METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—Identify by IEN - 6765 if you write the maker

Solve Your Welding Problems

at HOFFMAN-CHICAGO

Spot, Butt, Seam, Gun, Flash, Projection, Multi-Point and Stud Welders



NEW . . . USED . . . REBUILT

WELD-AIR-MATIC

Spot welder air conversion unit. Tests prove 10,000 welds hourly on continuous daily schedules.

BUTT-ON-SPOT

Automatic butt welding attachment. Water-cooled, fits any spot welder with minimum horn clearance of 7".

DIES: complete facilities to design and build special welding dies and fixtures for your piece parts.

ACCESSORIES: complete stock of Welder Controls, Holders, Tips and Bar Stock.

Write for our current available Welder List.

ROBT. W. HOFFMAN COMPANY, INC.

42 South Clinton Street • Chicago 6, Illinois

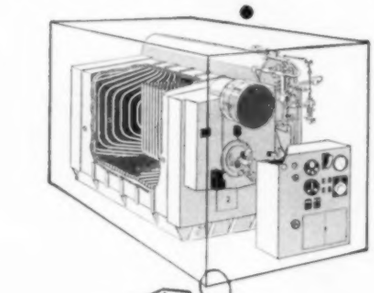
BREVITY—Identify by IEN - 6766 if you write the maker

Standardized Steam

for loads of

2,800 to 25,000 lbs. per hr.

IT'S THE *NEW* B & W SHOP-ASSEMBLED UNIT



B&W Integral-Furnace Boiler, Type FM

Note these *Cost-Saving* features

Saves Erection Time and Cost • Meets Wide Range of Services • Handles Quick Load Changes • Fast Steaming • Low Maintenance • Easy Accessibility • Suitable for Outdoor Service • Burns Oil and/or Gas • Saves Fuel • Saves Space • Safe, Automatic Operation.

SEND FOR BULLETIN G-72. detailing the many advantages of this new B&W creation in low-cost steam generation. The Babcock & Wilcox Company, 85 Liberty Street, New York 6, N. Y.

BABCOCK & WILCOX

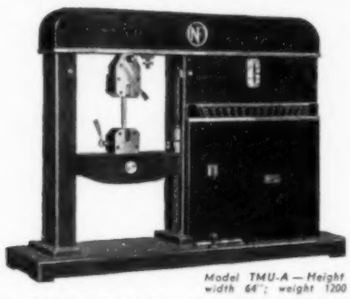
Helping Industry Cut Steam Costs since 1867

G-536

BREVITY—Identify by IEN - 6768 if you write the maker

It Will Pay You to Make Your Own Tests with

NATIONAL FORGE UNIVERSAL TESTING UNITS



Model TMU-A — Height 44"; width 64"; weight 1200 lbs.

The National Forge Universal Testing Machine, Model TMU, is compact, accurate, dependable, easy to operate and moderately-priced.

Wide working clearances, long stroke, quick-action simplified variable-speed control, improved grips and a wide spread of load scale ranges adapt this modern, streamlined unit to production, research or school instruction tests of a great variety of materials and specimen sizes. A.S.T.M. accuracy requirements are guaranteed.

Three load scale ranges: Model TMU-A — 0-30,000, 0-6000, 0-600 lbs. Model TMU-B—0-15,000, 0-3000, 0-300 pounds.

PROMPT DELIVERIES OF FEW UNITS REMAINING IN STOCK.

For details, write for Brochure 501.

TESTING MACHINE DIVISION
NATIONAL FORGE & ORDNANCE COMPANY
Dept. EN **Irvine, Warren County, Penna.**

BREVITY—Identify by IEN - 6769 if you write the maker

PRECISION O'RING SEALS

WHEN PRODUCT DESIGNS SPECIFY O-RING SEALING YOU CAN RELY ON THE QUALITY, ACCURACY AND SECURITY OF PERFORMANCE-PROVED GRC O-RINGS.

IF YOU NEED PRACTICAL ASSISTANCE, GRC TECHNICAL ENGINEERING SERVICE IS AT YOUR DISPOSAL.

AND FOR VALUABLE APPLICATION AND INSTALLATION DATA ON AN227, AN6230 AN6290 SERIES SEALS, WRITE FOR YOUR FREE O-RING CATALOG "C" AND BULLETIN P-112.

Goshen Rubber Co., INC.
MOLDED RUBBER SPECIALTIES WASHERS
QUALITY MECHANICAL RUBBER GOODS FOR 25 YEARS
1942 SOUTH NINTH STREET • GOSHEN, INDIANA

BREVITY—Identify by IEN - 6770 if you write the maker

You can install a Farris Stacon Temperature Regulator and forget all about it. You *know it* will operate positively and accurately under *all* conditions and at *all* times.

The Farris Stacon Temperature Regulator is dirt-proof, trouble-free. It operates with unheard of accuracy—to within plus or minus 1 deg. And that's not just under ideal circumstances. It functions with identical accuracy in the worst possible surroundings—provides air-operated sensitivity at self-operated cost.

Here's why: In patented Stacon Regulators, there are no packing glands to leak or bind. The liquid in the bulb flashes to vapor in the power bellows, providing hair-trigger response to move the valve disc.

You'll want complete details on this accurate and economical temperature regulator. Write for Stacon Bulletin 50-100.

Farris Stacon Corporation
432 COMMERCIAL AVE. PALISADES PARK, N. J.

BREVITY—Identify by IEN - 6771 if you write the maker

PACKAGING . . Padded paper bags for shipment of finished metal parts

Source: JIFFY MFG. CO.
358-62 Florence Ave., Hillside, N. J.

New use for the company's padded paper shipping bag, initially developed some time ago to ship miscellaneous items of non-fragile and semi-fragile nature, now applies for finished metal parts and sub-assemblies. The bag cushions the product, protects against corrosion and damage in transit.

It is manufactured of heavy kraft paper with a cushion of clean macerated newspaper between the inner and outer liners. Seven sizes measure 7¼ by 12 in. to 14½ by 20 in. when flat. The product to be handled is inserted through the flap-equipped end. The flap is folded over and closed by adhesive tape or staples and the face is tagged to address.

BREVITY—Identify by IEN - 6772 if you write the maker

STRAPPING . . Laminated fiber, ¾ by .040 in., substitutes for steel

Source: A. J. GERRARD & CO.
1948-52 N. Hawthorne Ave., Melrose Park, Ill.

Trade named
Fiberstrap

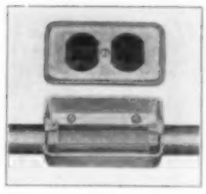
New construction for the company's laminated fiber strapping, previously described IEN-4769-43, provides tensile strength of 275 lb. as compared with 250 lb. in the previous material. The strapping is packaged in 25-lb. coils measuring 1,750 ft. in length. Its price is comparable to that of lightweight steel strapping. The material is water repellent.

The strap has a soft smooth surface that is non-abrasive and non-adhesive. It is applied by the company's standard Steelbinder strapping tool. It is particularly suited for packages weighing less than 90 lb. in line with current restrictions on steel strapping on NPA. Order M-59.

BREVITY—Identify by IEN - 6773 if you write the maker

ELECTRIC DUCT . . Service fitting for water tight installation on duct

Source: NATIONAL ELECTRIC PRODUCTS CORP.
13th Floor, Chamber of Com. Bldg., Pittsburgh 19, Pa.



No. 761-B is a new service fitting for the company's Floorduct raceway line. It fits over the continuous run of the duct and tightly grips the continuous base, when it is screwed in place, to produce a water-tight assembly. Installation can be made on a baseboard, wall or overhead. The fitting is supplied with a duplex receptacle but will take any standard design.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6774 if you write the maker

SLITTERS AND ROLLWINDERS

For all types and sizes of roll-wound products

From cellophane to sandpaper, from bandages to brake lining, *Camachine* experience leads the way in every field of roll production. There's a *right Camachine* for all types of paper or paperboard; textiles, rubber, foil or plastic; plain, coated, laminated or tacky-surfaced materials. *Camachines* are engineered for dependable, top-quality roll production at record-breaking speeds. For information and literature regarding roll production equipment for any type of material, write to:

CAMERON MACHINE CO.
61 POPLAR ST., B'KLYN 2, N.Y.

Camachine
First in roll production equipment

BREVITY—Identify by IEN - 6775 if you write the maker

NEED SOLDER?

for Dipping, Pouring, Dropping . . .

Solder dip pot. For tinning.

Cylindrical melting pot with pouring lip and bail.

Hand or foot operated solder dispenser drops a drop at a time.

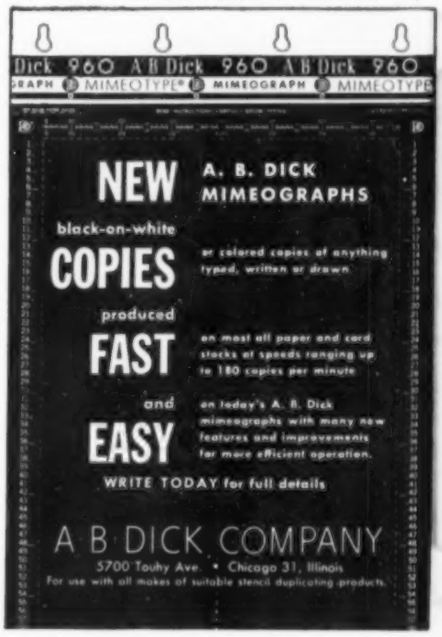
You'll find Sta-Warm solder melters as efficient and productive as Sta-Warm's famous compound heaters. The same sound principles of uniform and broadly distributed *low-wattage* heat apply to the design of Sta-Warm dipping, pouring and dispensing heaters.

There are styles and capacities for every production job, whether you need large or small amounts per hour.

Inquire today for Solder Melter bulletins.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

BREVITY—Identify by IEN - 6776 if you write the maker



BREVITY—Identify by IEN - 6777 if you write the maker

Cut Clock Watching

. . . IN TIMING ANY PROCESS

2-hour Model

Automatic INTERVAL TIMER
(TYPE T-48)

Let the T-48 give you to-the-second timing of process or laboratory operations. It frees operators for other work. And it's so easy to set up—simply plug in and use. Low in cost, too . . . $16.95 list.

Four different models—12-hour, 2-hour, 15-minute, and 120-second—offer a wide range of applications. And its expanded scale makes it easy to set, assures greater accuracy. Push-button start and automatic reset make repeat work a snap. Operates on 110-120 volt, 60 cycle AC; max. load, 1200 watts.

Many uses in laboratory, industry or home. See your nearest G-E representative.

Write for Bulletin. Ask for GEA-5108. Write Section 603-91, Apparatus Dept., *General Electric, Schenectady 5, N. Y.*

GENERAL ELECTRIC

BREVITY—Identify by IEN - 6778 if you write the maker

NEW APPROVED PUMP makes liquid handling SAFER

These new Tokheim Hand Pumps are a great boon to industrial safety. They stop wasteful dripping and slippery floors, reduce fire hazard and accidents, and save on drum storage space. At the same time, their fast, easy double-action speeds production, reduces costs. Ideal for many liquids. Available in hose and spout models for use with drums or underground tanks.

Approved for use with petroleum liquids — ideal for many others.

TOKHEIM DOUBLE-ACTION HAND PUMPS

General Products Division
TOKHEIM OIL TANK AND PUMP COMPANY
1654 Wabash Ave., Fort Wayne 1, Ind.
Factory Branch: 1309 Howard St. San Francisco 3, California

BREVITY—Identify by IEN - 6779 if you write the maker

General ★★★★★

Wirebounds cut damage to as low as 1/10th of 1% for A.O. Smith

CUT YOUR PACKING AND SHIPPING COSTS.. WRITE TODAY

GENERAL BOX COMPANY .. ★★★★★ engineered shipping containers

GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc., Houston, Dallas General Box Company of Mississippi, Meridian, Miss.

BREVITY—Identify by IEN - 6780 if you write the maker

THE FAMOUS MULTIFORM **BENDER CUTTER**

Produces Without Special Tooling — Saves Die Costs Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade.

No. 5 Air Model — FIVE-IN-ONE-TOOL — IT BENDS FLAT AND TUBULAR STOCK INTO ANY SHAPE. CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

NEWS NOTES—Continued

"New information on Duranickel alloy"

BREVITY—Identify by IEN - 6781 if you write the maker

MILLING . . How to use end mills and how to grind them described in new catalog

Pratt & Whitney Division
49 Charter Oak Blvd., West Hartford 1, Conn.

Technical data section in new 60-page catalog, "End Mills", presents information on cutter terminology, operating suggestions, speeds and feeds, cutting-fluid selection, sharpening, relief angles, inspection. Straight catalog data includes dimensions and list prices on some 500 types and sizes.

BREVITY—Identify by IEN - 6782 if you write the maker

NICKEL ALLOYS . . Technical data in booklet on Duranickel nickel-aluminum alloy

International Nickel Co.
67 Wall St., Room 703, New York 5, N. Y.

Technical Bulletin T-32, 24 pages, carries the title of "Engineering Properties of Duranickel". Tables, graphs and text set forth physical, mechanical and corrosion-resistant properties of the wrought age-hardenable alloy that is strong, hard and slightly magnetic. Instructions are given on working methods, machining, heat treating, along with applications.

BREVITY—Identify by IEN - 6783 if you write the maker

NUCLEAR ENERGY . . Summer symposium on nuclear engineering at Oak Ridge, Aug. 27 to Sept. 7

Oak Ridge Institute of Nuclear Studies Inc.
P. O. Box 117-A, Oak Ridge, Tenn.

Industry is invited to the 1951 Oak Ridge Summer Symposium to join with Atomic Energy Commission and educational-institution personnel in discussion. Program will be centered on the role of engineering in nuclear energy development. Sessions will be unclassified. A list of subjects and speakers will be sent upon request to the Information Department at the address above.

BREVITY—Identify by IEN - 6784 if you write the maker

PLANT PROTECTION . . Booklet of suggestions on watchman selection, route, making rounds, equipment

Detex Watchclock Corp.
74-78 Varick St., New York 13, N. Y.

What to look for in selecting a watchman, what a watchman should look for in making his rounds, what to do in case of an emergency, are answered in revised 12-page edition of the company's manual, "Plant Protection for National Defense". Notes are given on available supervisory equipment.

BREVITY—Identify by IEN - 6785 if you write the maker

PLASTICS . . Booklet on polyethylene describes properties and methods of coating paper

Bakelite Division
30 E. 42nd St., Dept. 1503, New York 17, N. Y.

Extrusion-lamination process for coating paper with polyethylene plastic is one of the methods described in new 32-page booklet, "Polyethylene for Paper Coatings". Graphs and tables present physical properties in detail. Applications of polyethylene-coated papers are shown by pictures.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6786 if you write the maker

BREEZE Job-Engineered BELLOWS

...Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

Feel free to consult us without obligation on your existing bellows requirements, or any other project where reliable welded diaphragm type bellows might solve a design problem.

BREEZE CORPORATIONS, INC. 41-V S. Sixth St., Newark 17, N.J.

OTHER BREEZE PRODUCTS: ACTUATORS · RADIO SHIELDING · AERO-SEAL HOSE CLAMPS

BREVITY—Identify by IEN - 6787 if you write the maker

A PARADE OF ADVANTAGES
Westinghouse Air Brake Co. "Y" COMPRESSORS

All modern features . . . PLUS these vital Points of Protection

Same system as used in modern automotive engines. Positive over-running oil pump "meters" oil to working parts. Exclusive with the "Y".

Compressor will not load (pump air) until oil circulation is established . . . and unless oil level is at proper height. Another "Y" exclusive feature.

Automatic switch cuts power if motor overheats—standard equipment on the "Y".

7.4 to 41.5 CFM displacements . . . 1½ to 10 HP. Ask for Bulletin IDC 9302-3.

Westinghouse Air Brake Co.
Industrial Division: Wilmerding, Pa.
DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

BREVITY—Identify by IEN - 6788 if you write the maker

Suzy the stock girl says...

"I'm 'toting' more goods faster with these containers!"

It's a fact. Workers in plants like yours are handling more materials, faster, and at less cost with Diamond Vulcanized Fibre Receptacles. Made from a tough, durable plastic, they stay on the job longer—will not crack, splinter or peel. Available in a complete range of types: boxes, barrels, trucks, cans, etc. Put a few in your plant now, on a "trial basis". You'll be surprised at their light weight, long life—and the way workers like to use them. Send for descriptive catalog.

C-D DIAMOND FIBRE RECEPTACLES
CONTINENTAL-DIAMOND FIBRE CO. NEWARK 21, DEL.

BREVITY—Identify by IEN - 6789 if you write the maker

Engelhard meets every

THERMOCOUPLE NEED!

NOBLE METAL THERMOELEMENTS AND THIMBLES

platinum vs. platinum-rhodium—repaired at substantial savings, with credit for reclaimed metal.

BASE METAL THERMOELEMENTS

chromel vs. alumel iron vs constantan copper vs. constantan.

STANDARD INSULATORS

All types and sizes.

PRIMARY AND SECONDARY PROTECTION TUBES

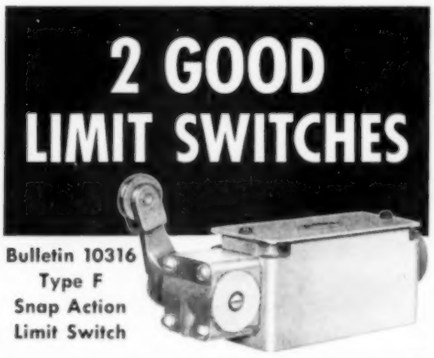
TERMINAL HEADS AND LEAD WIRE, ETC.

At Engelhard, you will find a complete line of thermocouples and accessories to meet all requirements. The individual parts of Engelhard thermocouples are selected and assembled for your specific conditions of atmosphere and temperature. You can rely on Engelhard's more than 40 years of research and instrument-building experience to solve your temperature measurement problems. Write for complete information today.

CHARLES ENGELHARD, INC.
850 PASSAIC AVE., EAST NEWARK, N. J.

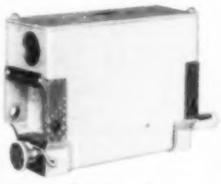
BREVITY—Identify by IEN - 6790 if you write the maker

BREVITY—Identify by IEN - 6791 if you write the maker



For limiting linear travel

The Cutler-Hammer 10316 Type F is a snap action limit switch for use in limiting linear travel of a moving member on many different machines, machine tools, cranes and hoists. It can be used to reverse motors and to initiate automatic cycles. Operating head mounts in any of 4 quadrants so it is easy to position switch. Roller lever, push roller or push rod operating head optional. Roller lever can be set in 90 different positions, 4 degrees apart. Roller lever available for trip in both directions, or trip in one direction and by-pass in the other direction. Two circuits, one normally open, one normally closed. Adjustable contacts for different arrangements of overlap, or no overlap. Twin-break, silver-to-silver, quick make and break contacts. Durable construction with oversized bearings and hardened surfaces. Standard, dustproof, dusttight, watertight or oiltight enclosures. Maximum accessibility for ease of wiring and adjustment.



Bulletin 10316 Type J Rotating Shaft Limit Switch

For limiting shaft rotation (in two directions)

Simple device, simply adjusted for limiting travel on number of shaft rotations in two directions on reciprocating equipment, machine tools, motor driven doors, baling presses, hoists, etc. To adjust settings, simply turn a knob on outside of case. You can vary length of stroke between 1/2 turn and 100 turns in fractions of 1/20th turn. Resets on 1/8th turn in reverse direction. Mounts on right or left side or bottom.

The Bulletin 10316 Type J Switch is available in 2 circuits, and 4 circuits for added control circuits. Standard 2 circuit switch has 2 normally closed contacts changed easily to normally open contacts. 4 circuit switch has normally open or normally closed contacts easily reversed or changed to 2 normally open and 2 normally closed contacts. 2 circuit switch available in standard enclosure and both switches are available in NEMA 4 watertight or NEMA 5 dusttight construction. CUTLER-HAMMER, Inc., 1378 St. Paul Ave., Milwaukee 1, Wis. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CUTLER-HAMMER MOTOR CONTROL C-H

BREVITY—Identify by IEN - 6793 if you write the maker

TRUCK . . Diesel driven, fork lift, hydraulic transmission, 2 and 3 ton

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

Diesel-Lift designates new fork-lift truck in which a 6-cylinder Hercules engine with continuous rating of 70 hp. drives a Twin Disc hydraulic clutch and transmission and also supplies hydraulic pressure for the lift and tilt movements by means of a pump.

Operating speed is to 13 mph. with 2,200 rpm. normal speed of the engine. Truck weight is 9,600 pounds. Overall width measures 62 in. with overall height in fork-down position at 85 inches. Primary lift is through 66 inches. Truck length to the fork face is 114 inches. Ratings of 2 and 3 ton are based on 24-in. load centers.

BREVITY—Identify by IEN - 6794 if you write the maker

HARD FACING . . Welding electrode for equipment parts subject to wear

Source: RANKIN MFG. CO.
3070-74 W. Pico Blvd., Los Angeles 6, Calif.

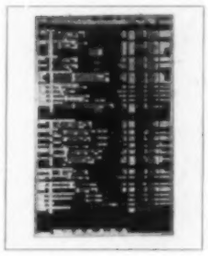
Available sizes
1/8 to 5/16 inch

Ranite B-X is a new arc-welding electrode, particularly for deposit on parts made of manganese steel. It can be employed in ac. or dc. operation on straight or reverse polarity. Fast spatter-free action is a characteristic.

BREVITY—Identify by IEN - 6795 if you write the maker

RECORD KEEPING . . Visual board accumulates data for production control

Source: VISI-TROL CORP.
21458-62 W. 8-Mile Road, Detroit 19, Mich.

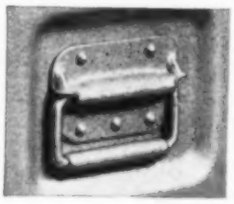


The company announces standardization of the component parts making up its industrial control board and availability of these parts from stock. The parts include channels in several widths, plastic letters, figures and strips, moldings and accessories. All can be assembled on short notice and a finished assembly can be revised to meet changing conditions. The letters and strips snap into and out of the channels. The strips are telescopic for extension or retraction with change.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6796 if you write the maker

We've Built a BETTER HANDLE!



FOR MANUFACTURERS OF PORTABLE EQUIPMENT, CARRYING CASES, PARTS BOXES, Etc.!

- non-rattling
- rugged construction
- rust-proof
- meets Air Force and other Government specifications

Here is the handle you have been looking for—one that is ideally suited for anything that must be lifted by a side carrying handle. Because we could not buy anywhere a satisfactory handle for the thousands of cases manufactured by Bendix and needing such an item, Bendix-Friez engineers developed this handle to meet Air Force and other Government specifications for many kinds of special equipment. The unique, rugged design of this handle, with its "snap-back" feature, is such that neither shock nor vibration will cause it to rattle. Built of aluminum and stainless steel, it can be riveted or welded to the side surfaces of any kind of container or depressed in the sides. Available in large or small lots, orders filled promptly. Write for prices.

Bendix-Friez

FRIEZ INSTRUMENT DIVISION of Bendix AVIATION CORPORATION
1338 Taylor Avenue
Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N.Y.

BREVITY—Identify by IEN - 6797 if you write the maker

BREVITY—Identify by IEN - 6798 if you write the maker

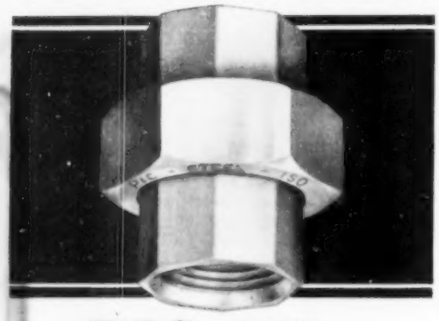
BREVITY—Identify by IEN - 6799 if you write the maker

BREVITY—Identify by IEN - 6800 if you write the maker

Ingersoll specializes in STEELS that resist corrosion that resist heat

Ingersoll STEEL DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue, Chicago 4, Illinois
Plant: New Castle, Indiana

BREVITY—Identify by IEN - 6801 if you write the maker



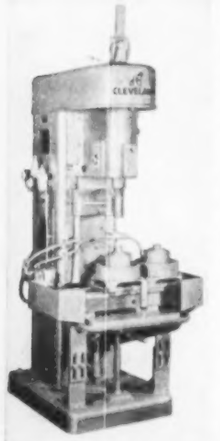
PIC STEEL UNIONS
have uniformly flat-sided ends to speed your machine assembly

Assembly and installation of your machines can be speeded when you specify PIC 150# unions. Ends are uniformly parallel, uniformly flat-sided — use an open-end wrench in inaccessible spots (or anywhere). For top resistance to wrenching they are made from steel pipe coupling stock. In addition, a special wedge-type bronze seat ensures tightness; 100% zinc plating — *even on threads* — gives true rust protection. The cost? — less than a galvanized — no more than a black malleable union. Write for FREE SAMPLE!

DART UNION COMPANY
130 THURBERS AVENUE, PROVIDENCE 5, R. I.

BREVITY—Identify by IEN - 6802 if you write the maker

Cut Your Tapping Costs with
CLEVELAND TAPPERS



On Tapping, Threading, Drilling, Spot-facing, Reaming, and Chamfering operations, the chances are that CLEVELAND engineers can save you money and valuable working time by designing a CLEVELAND Tapping Machine which will not only combine several operations but also tap groups of holes at one stroke of the machine. *Check with CLEVELAND first.*

If you would like recommendations on a machine, submit prints, specifications, and sample parts. Write for your copy of the CLEVELAND Production Tapping Guide No. Y-5.

This Cleveland Tapping Machine is set up on a munitions job, tapping a 11/16", 16-pitch buttress thread in SAE 4340 steel tubing hardened to 35 to 37 Rockwell.

THE CLEVELAND TAPPING MACHINE CO.
A Subsidiary of AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO

NEWS NOTES—Concluded
"How to run a fork lift truck"

BREVITY—Identify by IEN - 6803 if you write the maker

THERMOCOUPLES . . Data card lists calibration and color on thermocouple wires

Thermo Electric Co.
22-04 Raphael St., Fair Lawn, N. J.

Iron-constantan, chromel-alumel, copper-constantan and platinum-rhodium thermocouple wires and extensions are listed by polarity, calibration symbol, and color codes in new 8½ by 5½-in. data card, available on request. On the back is printed a set of resistance tables for pyrometer wires in seven metals for B&S wire gages from No. 40 to No. 1.

BREVITY—Identify by IEN - 6804 if you write the maker

THREADING . . Operating instructions for hand and power pipe threading in new bulletin

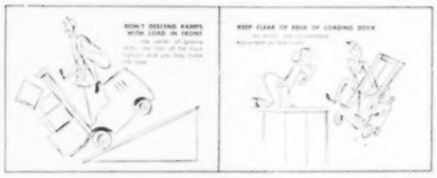
Beaver Pipe Tools Inc.
334 Dana Ave., Warren, Ohio

"Operating Guide" titles new 4-page bulletin that presents 31 suggestions on how to locate and correct pipe threading and cutting machine troubles, hand pipe tool operation. A sketch is included with most of the suggestions. Eight of the suggestions deal with electric power supply.

BREVITY—Identify by IEN - 6805 if you write the maker

TRUCKS . . Operator instruction booklet uses cartoon drawings to illustrate 28 safety pointers

Clark Equipment Co.
Battle Creek 49, Mich.



Illustrated are two of 28 drawings in new 24-page pocket instruction booklet, "Safety Saves", intended for both experienced operators of fork lift trucks and beginners. Each drawing shows in informal manner what can happen in a situation stated by a brief safety rule. A short reason-why is given for each rule. Sixteen other rules, not illustrated, are assembled at the back. The company will be happy to send you a copy of the new booklet.

BREVITY—Identify by IEN - 6806 if you write the maker

TUBES . . Technical data handbook on properties and uses of stainless steel tubes

Babcock & Wilcox Co.
4027-31 Fourth Ave., Beaver Falls, Pa.

Manufacture, properties, application data are given in new 106-page Technical Bulletin 1-B on the company's stainless Croloy steels in seamless and welded tube and pipe form. Suggested procedures are detailed for hot working, machining, bending, heat treating, welding. Detail technical information including photomicrographs is given on individual steels.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6807 if you write the maker

REMOVES FUMES—DUST FASTER!

High Quality
PRESSURE BLOWER
only **$49.50**
REG. PRICE $70.00

For the fast, efficient elimination of welding fumes, sawdust, or other air impurities, you can depend on this precision-made, all-aluminum high-pressure blower. Made with 5½" inlet and 3½" outlet. Enclosed ¾ H.P. Westinghouse single phase motor, 115 V., A. C., provides 3450 R.P.M. and up to 450 C.F.M. Immediate delivery! Ask for #BL50W.

STANDARD ELECTRIC
MFG. CO., INC.
WEST BERLIN, N. J.

BREVITY—Identify by IEN - 6808 if you write the maker

DO YOU *KNOW*... that

You can conserve strategic raw materials by using tungsten carbide cutting tools . . .

The efficiency of tungsten carbide cutting tools, measured in work output, is far greater than for any other class of tools . . .

"KNOW HOW"—the best productive use of manpower, machines and materials is essential in our present emergency. It is with this in mind that V-R is making available a fine new *text book*—CARBIDE CUTTING TOOLS—written by two eminent authorities.

This book removes the veil of highly technical research studies and supplies the man at the machine, the student, the designer and the engineer with a wealth of practical material.

CONTENTS: Machine Tools and the Carbides, Converting to Carbides, Tool Angles, Machinability, Tipping a Carbide Tool, Grinding Single-Point Tools, Cutting Power, Speeds, Feeds, Carbide Tool Design, Gadgets and Carbide Tools, Carbide Forming Tools, Carbide Milling Cutters, Sharpening Milling Cutters, Multiple-Edge Carbide Tools, Cutting Speeds, Feeds, Forces, Multiple Edge Tool Design, Selection of a Carbide Tool Materials, Assembly, Grinding and Use of Tools, Index.

416 Pages, 203 Illus. Washable Cloth Binding. Price $5.50

Companies' purchase orders will be subject to our regular terms. Book orders from individuals should be accompanied by check or money order. Please do not send cash because we will not be responsible. All books shipped prepaid.

FREE... With each book purchased for your training program, a complete study guide specially prepared for V-R by the American Technical Society will be furnished without charge—compliments of Vascoloy-Ramet Corporation.

Send all Book Orders to: EDUCATIONAL TRAINING DEPARTMENT

VASCOLOY-RAMET CORPORATION
WAUKEGAN, ILLINOIS

BREVITY—Identify by IEN - 6809 if you write the maker

LIKE AN ATOM-IC EXPLOSION

Just ONE 1/32" pin-hole size faucet LEAK MUSHROOMS into ATOMIC WASTE of approximately 76,000 gallons of water yearly—COSTING: $10.13 @ $1 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 76,000 gallons costs approximately:

$27.65 if coal (7,900 lbs.)
$38.00 if oil (633 gals.)
$50.63 if gas (67,500 cu. ft.)

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "EASY-TITES" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D. **"EASY-TITE"**
Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day super-heating water systems—that formerly broke down washer's structure (tested to withstand 300°F.)

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold TAPS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG,
Edition F, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and our NEW Catalog F promptly.
J. A. SEXAUER MFG. CO., INC., Dept. K-71
2503-05 Third Avenue, New York 51.

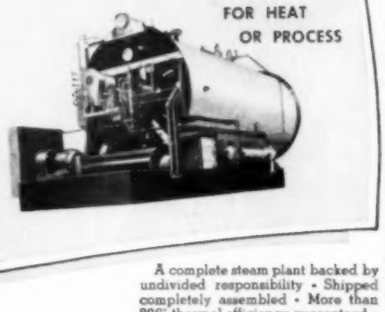
SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

as advertised in THE SATURDAY EVENING POST

BREVITY—Identify by IEN - 6811 if you write the maker

STEAM

FOR HEAT OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 317

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emmaus, Pa.
Exec. Offices: Times Bldg, Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

BREVITY—Identify by IEN - 6812 if you write the maker

IF YOU WALK ON IT IT CALLS FOR OPEN STEEL FLOORING

If you are planning a new building, or of modernizing old walking surfaces indoors or out, look into the advantages of open steel flooring . . . the versatile flooring. Now! New catalog illustrates and describes wide range of modern applications, its safety features, strength, simplicity of installation and maintenance. Send for a copy.

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OPEN STEEL FLOORING INSTITUTE
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Pittsburgh 22, Pa.

Versatile
OPEN STEEL FLOORING INSTITUTE

MEMBERS
BLAW-KNOX COMPANY Pittsburgh, Pa.
BORDEN METAL PRODUCTS CO. Elizabeth, N.J.
HENDRICK MANUFACTURING CO. Carbondale, Pa.
IRVING SUBWAY GRATING CO. Long Island City, N.Y.
STANDARD STEEL SPRING CO. Gary, Indiana
THE WALTER BATES CO. Joliet, Illinois
TRI-LOK COMPANY Pittsburgh, Pa.

BREVITY—Identify by IEN - 6813 if you write the maker

Test for Electrical LEAKAGE • SHORTS • BREAKDOWN with "HYPOT" JUNIORS

HIGH POTENTIAL TESTING INSTRUMENTS

WRITE FOR BULLETIN 4A

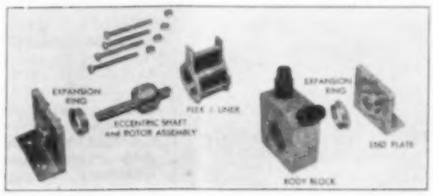
- ONLY ONE instrument necessary to make high potential tests for leakage, breakdown or shorts!
- PORTABLE, with rugged steel case...Operates in any position!
- SAFE to use, with protected test leads, shielded high voltage, grounded case!
- SIMPLE—only three easy steps to make a complete test!
- VISUAL INDICATIONS from neon lights give positive test results. Audible test indication for leakage also available.
- RANGES 0-1500 to 0-6000 V.A.C. output. Other "Hypots" to 50,000 V.A.C. output at 5 K.W.
- WRITE for complete data on "HYPOTS" for your jobs.

ASSOCIATED RESEARCH, Incorporated
3762 West Belmont Avenue, Chicago 18, Illinois

BREVITY—Identify by IEN - 6814 if you write the maker

PUMP . . Eccentric rotary design for corrosive fluids, gases, to 5 gpm.

Source: VANTON PUMP CORP.
350 Fifth Ave., Room 7308, New York 1, N. Y.



New body block made of polyethylene plastic and a vinyl plastic Flex-I-Liner eccentric feature the construction in a new Series P in the company's line of rotary pumps, previously described IEN-6524-49. The two plastics, the only parts of the pump that come in contact with the fluid being handled, are not subject to attack by acids such as sulfuric, hydrochloric, nitric, hydrofluoric or by caustics and numerous other chemicals.

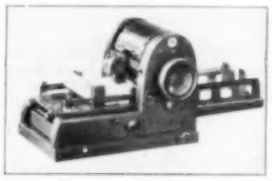
Inlet and outlet are threaded for ½ to ¾-in. pipe or can be supplied with standard Saran tube fittings or hose connections. The pump takes a ¼-hp. motor and is available alone or in complete assembly with the motor to include, if required, a variable-speed transmission.

The drive shaft carrying an eccentric is mounted in sealed ball bearings in metal end plates that bolt on the two sides of the body blocks. The shaft rides inside the eccentric member and its axial flange rides in a slot between inlet and outlet to seal at this point. Rotation produces a rolling action between the eccentric and the block bore to draw fluid in at the inlet and carry it around the bore for delivery at the outlet. Assembly with a ¼-hp. motor measures 8 by 16 by 7 inches. Capacity is based on normal operation at 1,750 rpm.

BREVITY—Identify by IEN - 6815 if you write the maker

PRINTING . . Mimeograph machine reproduces copy from standard stencil

Source: A. B. DICK CO.
5702 W. Touhy Ave., Chicago 31, Ill.



Model 445 is new design in the company's line of motor-driven mimeograph machines. It has feed-table capacity of 500 sheets of substance-20 paper and can be set for desired speed in a range between 60 to 110 and between 110 to 180 copies per minute. It takes paper from substance-16 weight to card stock ranging in size from 3 by 5 in. to 9 by 16 inches. Maximum duplicating area is 7¼ by 14 inches.

The machine employs a new quick-drying ink, also made by the company. It will dry almost immediately upon contact with the paper to permit handling without delay. Position of the copy on the paper can be adjusted vertically, laterally and in angular direction. A stacker jogs each sheet as it is fed into the receiving tray. A counter records to a maximum of 2,000. It will shut off the feed at the end of a predetermined run within this total.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6816 if you write the maker

LABOR-SAVING Moto-Bug (POWER WHEELBARROW)

- Hauls 10 cu. ft. of scrap, castings or bulk materials in big capacity hopper . . . makes man-hours 3 to 4 times more productive.
- Full power forward and reverse requires "no push, no pull" to travel, back up or to spot heavy loads.
- Driver rides on rear step (optional) . . . large steering wheel provides effortless maneuvering.
- Handy 33" width clears narrow doorways and aisles.
- Standard-make, 4 h.p. engine easily takes full load up 20% ramps and grades.

Interchangeable flatbed

moves over 1200 lbs. on sturdy 32" x 4 ft. platform . . . tilts for easy pull-away when unloading . . . has stake pockets for sideboards. Fork lift and scraper blade extend Moto-Bug's one-man economics to all kinds of material-handling jobs.

Get more facts from your Kwik-Mix distributor now . . . or send for Moto-Bug bulletin TODAY.

KWIK-MIX CO.
PORT WASHINGTON, WIS.
(Koehring Subsidiary)

BREVITY—Identify by IEN - 6817 if you write the maker

STRONG!..

PLASTIC DRAWER Metal Storage Units

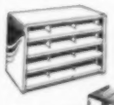
Low-cost, organized storage space . . . easy-to-find arrangement

Dividers make 1 drawer into 3 compartments

Model illustrated
32 DRAWERS
(96 Compartments)

HUNDREDS OF USES:
Useful in every shop, lab, office, stockroom, store, home, assembly line . . . in radio, TV, photographic and ignition work.

Orderly storage for small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, medical supplies, marine supplies, drugs, jewelry, etc. Safety catch ends accidental spilling, identity card drops into slot in drawer front.



Heavy welded all steel cabinet, separate drawer guides. Gray baked enamel finish.

Drawers are 5⅛" deep 2⅛" wide 1¼" high

Made in 5 sizes:
J-64 64 drawers (192 compartments)
J-32 32 drawers (96 compartments)
J-16 16 drawers (48 compartments)
J-12 12 drawers (36 compartments)
J-8 8 drawers (24 compartments)

WRITE FOR PRICE LIST

AKRO MILS, INC. P.O. BOX 989 AKRON 9, OHIO

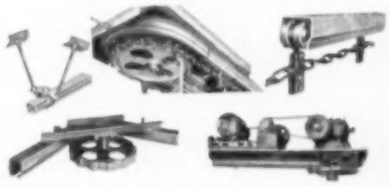
BREVITY—Identify by IEN - 6818 if you write the maker

A Packaged Conveyor you can erect yourself

Here is a complete overhead, power driven, monorail conveyor for light and medium loads—the MHS Junior Monoveyor.

You make your own layout to meet whatever manufacturing, transportation and storage requirements you have. Order the necessary components and erect it yourself. No lost time—no unnecessary expense.

Write for Bulletin JM-1 for complete details on components and layout.



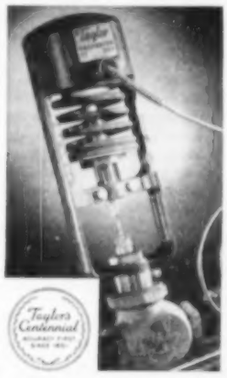
Mechanical Handling Systems, Inc.
4605 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities

BREVITY—Identify by IEN - 6819 if you write the maker

INSTALL IT! FORGET IT!

THAT'S all you have to do with this Taylor Self-Acting Temperature Controller! Simple, dependable, needs practically no maintenance. Ideal where your process involves no extreme load changes. Where compressed air or electricity aren't available.

For jobs like: wax coating machines, plating and rinsing tanks, bottle and can washers, mixing and cooling kettles, hot water tanks, diesel water jackets, feed water systems, crude oil treaters, condenser cooler water in stills, oil field superheaters and others.



No auxiliary air supply required. Double seated valves available up to 2", single seated composition disc types up to 1". Numerous standard temperature ranges within 10° to 340°F., and semi-standard temperature ranges within 165° and 610°F. Choice of bulb materials and type of connection.

Ask your Taylor Field Engineer or write for **Catalog 36-R.** Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

BREVITY—Identify by IEN - 6820 if you write the maker

you insist on smart-looking company vehicles . . .

insist on uniforms of

REEVES QUALITY FABRICS

Smart-looking employees mean greater public acceptance—that's why leading companies specify Reeves Fabrics. They wear longer . . . keep their crisp good looks because they're made of fine *combed* cotton, Sanforized*, and vat-dyed in colors fast to sun, water and perspiration.

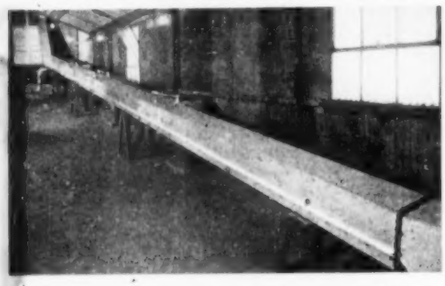
Write for full information.

* Residual shrinkage less than 1%

Reeves ARMY TWILL · Reeves CLEARWATER POPLIN · Reeves PARADE TWILL

REEVES BROTHERS, Inc., 54 Worth Street, New York 13, N. Y.

BREVITY—Identify by IEN - 6821 if you write the maker



1-hp. to convey 90 tons/hr.

This F-H Airslide Conveyor, in a cement plant, conveys cement raw materials from pulverizers to storage. Note the three side-discharge valves, which may be set either to direct entire material flow through one spout, or divert any portions of the material stream to obtain a desired distribution to bin below the floor.

Minimum power—only 1-hp. to convey 90 tons an hour. Not only a maximum saving in power, but the Airslide eliminates many moving, hazardous parts, lubrication, repairs, and supervision . . . reduces down-time and costly labor charges . . . simplifies the problem of spare parts from a cost, handling, and storage standpoint.

For low-cost conveying, we suggest you investigate this modern method of material handling.

FULLER COMPANY, Catasauqua, Pa.
120 S. LaSalle St., Chicago 3
420 Chancery Bldg., San Francisco 4

fuller FH-16

BREVITY—Identify by IEN - 6822 if you write the maker

LET Clarke SHOW YOU . . .

A Better Way of Floor Care!

HERE IS JUST PART OF THE CLARKE LINE!

CLARKE FLOOR MAINTAINERS
Four sizes for any application. Scrub, wax, polish, steel wool, sand, and shampoo. Improved safety switch. "Self-lifting" wheels.

Only actual use can demonstrate the overall superiority of Clarke maintenance machines. Wide-spread use in churches, schools, hotels, hospitals and industry is only partial assurance of guaranteed performance. We want to show you — on your own floors — why Clarke machines have long been preferred for all phases of floor care.

Sales and Service Branches in All Principal Cities

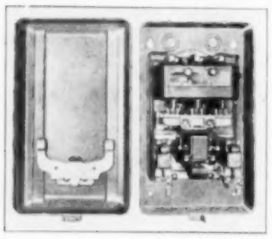
CLARKE SANDING MACHINE COMPANY
287 Clay Street, Muskegon, Mich.
Please rush me hints on easier and faster floor care and more information on the following machines
Clarke Floor Maintainers ☐
Clarke Wet and Dry Vacuum Cleaner ☐
Please arrange a free demonstration ☐
NAME
ADDRESS
CITY ZONE STATE

CLARKE WET and DRY VACUUM CLEANER
Picks up water, dirt. Quick dump valve, no lifting. Powerful suction . . . neoprene hose.

BREVITY—Identify by IEN - 6823 if you write the maker

MOTOR CONTROL . . Magnetic contactor employs multi-turn magnetic blowouts

Source: CLARK CONTROLLER CO.
1144-48 E. 152nd St., Cleveland 10, Ohio



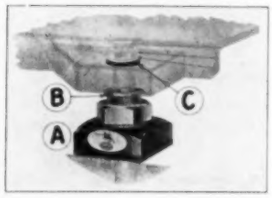
Type CY is a new mill-type magnetic contactor in which multi-turn magnetic blowouts are employed to extinguish the arc when the contacts open. A steel arc chamber and center stud form the magnetic circuit around each contact, the magnetic field being concentrated in a cone from the steel center stud supporting the upper contact to the steel rim of the lower arc shield surrounding the lower contact. An arc is forced to lengthen, rotate and move continually from a hot spot to a relatively cool one for effective interruption.

Bulletin 6013 Size 2, shown in the illustration, rates 7½ to 25 hp. on 110 to 550-volt polyphase ac. It rates 3 to 7½ hp. on 110 to 220-volt single-phase ac.

BREVITY—Identify by IEN - 6824 if you write the maker

JACK . . Screw type design for machine leveling on an uneven floor

Source: ENTERPRISE MACHINE PARTS CORP.
2729-33 Jerome Ave., Detroit 12, Mich.



Vertical movement is through ⅜ in. in this new screw-type Style-JS Jack. It consists of a metal base felt-base pad A, nut-supported screw, aligning disc B, and felt washer C. Spherical seat between the top of the screw and the bottom face of the aligning disc compensates for unevenness under a machine foot.

The screw is drilled to take a ⅜-in. bolt supplied by the user. Three sizes measure 1¾, 2 and 3 in. in lowered height not including the Vi-Sorb felt pad. Load rating is 20 ton.

BREVITY—Identify by IEN - 6825 if you write the maker

ALUMINUM . . Book of technical data on aluminum alloys, mill products and properties

Reynolds Metals Co.
2502 S. 3rd St., Louisville 1, Ky.

"Aluminum Data Book" titles revised edition of the company's book of facts previously described IEN-12876-48. It will be sent only upon letterhead request by engineers, designers and technical men. Please address your inquiry direct.

Its 194 pages present information on aluminum alloys, wrought and cast products, physical and mechanical properties, chemical resistance, fabricating and joining methods. There are 117 tables including weights, tolerances.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

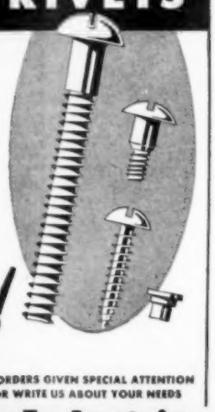
BREVITY—Identify by IEN - 6826 if you write the maker

Beaver·Bilt

SCREWS STUDS · RIVETS

Standard and Special Types Made for Your Particular Requirements

COLD HEADING PROCESS



Prompt Delivery!

URGENT ORDERS GIVEN SPECIAL ATTENTION
WIRE OR WRITE US ABOUT YOUR NEEDS

Beaver Industries
METAL FASTENER DIVISION
1300 WEST ADAMS STREET, CHICAGO 7, ILL

BREVITY—Identify by IEN - 6827 if you write the maker

Mullenbach Industrial Resistors

QUICK DELIVERY!

Open bank

Enclosed bank

Special alloy resistance wire triply insulated from frame, retains constant resistance, regardless of temperature, resists corrosion at high heat. Silver brazed terminal connections. One-piece cadmium-plated steel frame operates at ground potential.

Available in single units from ¼ ohm at 60 amps. to 20 ohms at 5 amps. Also supplied in open and enclosed banks, series or parallel circuits for various load requirements. 500 Volt AC or DC rating. Underwriters Lab. Approval.

Free folder supplies electrical and mechanical specifications and prices. Write for copy.

Electrical

MULLENBACH MANUFACTURING COMPANY
2300 EAST 27th STREET · LOS ANGELES 58, CALIFORNIA

BREVITY—Identify by IEN - 6828 if you write the maker

PITTSBURGH a air p pressure t tested COILS

Built for your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also air-pressure tested Welded Headers, Welded Ammonia Receivers, Accumulators, Pipe Coils, Bends, Boiler Tubes. "Let us quote!"

Pittsburgh Pipe Coil & Bending Co.
61 BRIDGE STREET · ETNA, PITTSBURGH 23, PA.

BREVITY—Identify by IEN - 6829 if you write the maker

EVERYONE'S SHOUTING ABOUT *Rustygon*
THE AMAZING NEW PRIME COAT FOR METAL

- ★ Not an oil—a chemical that dissolves and prevents rust.
- ★ Expands and contracts with metal—stops peeling and blistering of paint coat.
- ★ Provides perfect surface for painting.
- ★ One gallon covers approximately 1200 sq. ft.

Rust deposit on steel forms a pitted surface.

Old method of applying oil base paint after sanding or brushing leaves rust in pits which later break through.

Rustygon goes into the pits, dissolves ALL the rust and seals the surface—stops future paint failures.

Apply Rustygon with rag, brush, spray or by dipping. Watch it dissolve rust and seal the surface against future rust. It expands and contracts with the metal which prevents peeling or cracking like oil base primers. Use on damp or dry surfaces—dries in one hour . . . covers two to four times the surface of oil base paints; priced approximately the same.

USE *Rustygon* FOR PRIMER BEFORE PAINTING

Metal roofs, iron fences, gutters, metal window sash, farm equipment, metal tanks and stacks, poles, any surface subject to rust or oxidation.

GENSCO

GENSCO CHEMICAL DIVISION
1836 NORTH KOSTNER AVENUE • CHICAGO 39, ILLINOIS

BREVITY—Identify by IEN - 6830 if you write the maker

small COMPACT TESTER

large ACCURATE RANGE

DILLON

multi-low-range universal

TESTER

A portable laboratory instrument that is accurate to ½ of 1%. Tests paper, thread, fabrics, plastics, springs, film, cord, wire, leather, resins, adhesives, glass, wood, ceramics, felt, cardboard, bakelite, insulation and any other materials which fall within its range. Has 5 scales: 0-10, 0-25, 0-50, 0-100 or 0-300 lbs.

Stress-strain curve automatically recorded on graph sheets. Limit switch prevents overrun. Indicates load as it is applied. Accessories permit transverse, tensile, compression and shear testing easily and economically. Speeds from 0" to 20" per minute. The ultimate in fine testing equipment yet low in cost.

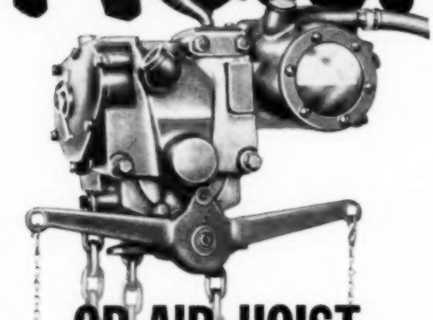
Write or wire for illustrated bulletin—Today

W. C. DILLON & CO., INC.

1421-K SOUTH CIRCLE AVENUE, FOREST PARK, ILLINOIS

BREVITY—Identify by IEN - 6831 if you write the maker

New!



CP AIR HOIST with graduated speed control

One of the features of this new CP Air Hoist is a graduated speed control—from a slow creep to full speed. Maximum hoisting speed, with a 500-pound load, is 42 feet per minute.

Rotary vane air motor gives smooth starting and a pulsation-free flow of power. Loads are spotted accurately, quickly, gently.

No electric spark or shock hazard. Upper and lower limit stops prevent overtravel in either direction. Automatic braking is provided by self-locking worm drive.

This new CP AIR HOIST weighs only 57 pounds; can be carried from one job to another. Available in four capacities: 300 pounds, 500 pounds, 700 pounds, 1000 pounds.

Write for Bulletin SP-3027

CHICAGO PNEUMATIC TOOL COMPANY

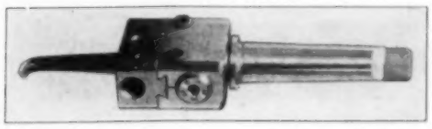
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

BREVITY—Identify by IEN - 6833 if you write the maker

BORING . . Adjustable head has boring range between ⅜ and 7 in.

Source: MAXWELL CO.
391 Broadway, Bedford, Ohio



Series 50 is new design in the company's line of adjustable boring heads. It replaces a previously developed No. 5. Body and block are made of heat-treated tool steel. The tool block is dove-tailed into the body and all fitting surfaces are ground. Fifty divisions for the side adjusting screw permit settings in thousandths and final fine positioning by means of a vernier to 0.0002 inch. The adjusting screw is hardened and then the threads are ground from the solid.

Shanks can be specified in Nos. 2, 3 and 4 Morse and Nos. 7, 9 and 10 B & S., or 1-in. straight. Tools can be furnished with carbide-tipped cutters as specified.

BREVITY—Identify by IEN - 6834 if you write the maker

COMMUNICATING . . Mobile radio for two-way talk with dispatcher

Source: GENERAL ELECTRIC CO.
1949 Electronics Park, Syracuse 1, N. Y.

For plant and railroad yards

Private conversation can be maintained between a dispatcher and an individual mobile unit in an assembly of such units that permits separation of an installation into a maximum of 10 groups. All of the individuals in a group will hear a dispatcher's call but when the called individual responds all other receivers in the group remain silent.

Action centers in an electronic tone-sensitive device which is attached to each receiver in the installation. Each group of receivers then is actuated by a separate tone signal from the dispatcher's office which is sounded when he depresses a pushbutton. The signals are within the 300 to 3,000-cycle range to permit their use over any circuit that will pass voice, including a telephone line.

BREVITY—Identify by IEN - 6835 if you write the maker

ISOLATING . . Vibration insulator for airborne electronic equipment

Source: T. R. FINN & CO.
331-5 Jackson Ave., New York 54, N. Y.

Electronic apparatus such as radio, radar, loran, to be installed in an airplane, can be mounted on this new Finnflex base to protect it against vibration in the plane. The base carries four metallic spring-type isolators that remain effective in a temperature range between minus 80 and plus 250 deg. F. Friction dampening prevents excessive movement at resonant frequencies. The assemblies satisfy Specification JAN-C-172A. Sizes range from 5 by 12⅝ to 15½ by 19⅝ inches. Load range is 60 to 80 pounds. The company will advise on specific applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6836 if you write the maker

NEW Bellows HAN-D-AIR CLAMP

Only $6.00 ea. $66. per doz.

• SAVES TIME in jig and fixture operations
• SAVES TIME in parts positioning
• SAVES TIME in parts ejection

Overall Size 4" x 1½" Square

The new Bellows HAN-D-AIR CLAMP is a spring return, single acting miniature air cylinder. 1⅛" bore develops 100 lbs. of pressure at 100 lbs. of air. (Power factor 1 to 1). 1" stroke. Threaded 5/16" diameter piston rod. Universal mounting: can be mounted horizontally, vertically, side, front flange, rear flange or front pivot. Overall size 4" long by 1½" square. 1/16" heavy wall brass cylinder; ⅝" heads; oil resistant "U" cup; tension balanced spring.

ORDER TODAY — Dept. IEN 751

1249

The Bellows Co.

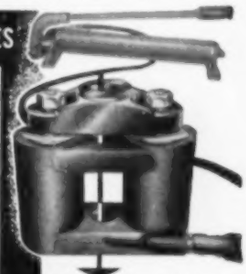
AKRON 9, OHIO

BREVITY—Identify by IEN - 6837 if you write the maker

OTC ANNOUNCES

SENSATIONAL POWER-TWIN HYDRAULIC PULLER WITH CENTER HOLE

REVOLUTIONARY ADDITION TO THE FAMOUS OTC PULLING SYSTEM



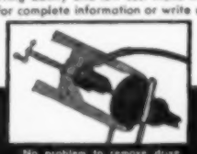
- Fits all OTC pulling units
- Works in any position
- Pushes—Pulls
- Faster than screw operation
- Eliminates torque
- More powerful— No friction
- Easier—just pump strokes
- Safer—remote control

CENTER HOLE permits Power-Twin to do jobs no other hydraulic ram can do . . . makes possible application of direct force . . . fast, easy, unlimited adjustment . . . versatile interchange of parts.

LIGHT — COMPACT — POWERFUL — SAFE

The fastest, easiest working, handiest Push-Puller in history . . . sensational in performance, its time and labor saving ability and low cost make it a must for any shop. See your jobber for complete information or write us.

Spline shaft bearing comes off quickly with Power-Twin and OTC Push-Puller and 952 attachment.

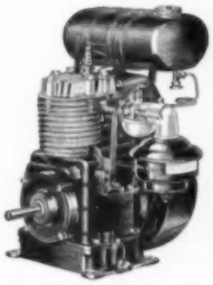


No problem to remove drive gear with OTC Power-Twin and 1003L Grip-O-Matic.

OWATONNA TOOL COMPANY

371 CEDAR STREET • OWATONNA, MINNESOTA

BREVITY—Identify by IEN - 6838 if you write the maker



MODEL K-12-2, 3 H. P. 4-cycle, single cylinder, air-cooled. Length 14", width 14", height 19". Wt. 43 lbs.

REUSABLE POWER FOR:
CONCRETE MIXERS
ROAD OILERS • COMPRESSORS
FLOOR SWEEPERS
GENERATORS • HOISTS
CENTRIFUGAL PUMPS
LIFT TRUCKS • PORTABLE SAWS
SNOW REMOVAL EQUIPMENT
SPRAYERS • VIBRATORS

KOHLER ENGINES

Four-Cycle Air-Cooled

Kohler Engines are engineered and built to give the economical service that has won world-wide acceptance for Kohler Electric Plants in construction and other industries. Made in several sizes, they are suited to a wide range of uses. Kohler engineers will gladly assist in working out applications for your particular requirements.

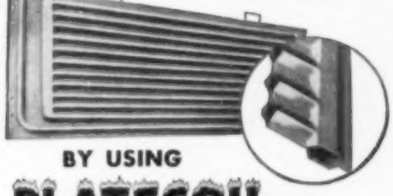
Kohler Co., Kohler, Wisconsin. Established 1873.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION PARTS

BREVITY—Identify by IEN - 6839 if you write the maker

YOU SAVE STEEL MANHOURS MONEY



BY USING

PLATECOIL FOR TANK HEATING AND COOLING

YOU SAVE CRITICAL STEEL because "Platecoils" require less than ½ the steel used in pipe coils of the same surface area. A 22" x 119" Platecoil weighs 95 lbs. against 239 lbs. for an equivalent 2" pipe coil. 144 lbs. steel saved. YOU SAVE CRITICAL MANHOURS because "Platecoils" are easily installed, cleaned or replaced in minutes . . . No down-time . . . No tank dumping. Many manhours saved.
YOU SAVE MONEY because "Platecoils" cost up to 50% less in initial cost and require less maintenance. Investigate "Platecoils" today.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL Division KOLD-HOLD MFG. CO. LANSING 4, MICHIGAN

BREVITY—Identify by IEN - 6840 if you write the maker

Variable Speed Control for Light Machinery

Costs only a trifle — brings amazing results

Converts a constant speed motor to a variable speed drive . . . fits on standard motor shaft. Provides accurate, positive speed changes while the machine is running. With a turn of handwheel, you get exactly the right speed for every job under every changing condition. Sizes from 1/8 to 1½ hp—$7.50 and up. Write for Bulletin IN 66a-J.

Reeves Pulley Company • Columbus, Ind.
REEVES *Variable Speed Control*

BREVITY—Identify by IEN - 6841 if you write the maker

WILL YOUR PLANT STAND A WHITE GLOVE INSPECTION ?

Model 218

This idea may sound far fetched — but it's straight facts that the clean plant, shop or office will have the best chance of landing defense orders.
Doyle Vac-Its are vital to your defense programs. Write Doyle today. No obligation.

Doyle VACUUM CLEANER CO.
2235 Stevens St., S. W. Grand Rapids 7, Mich.

BREVITY—Identify by IEN - 6842 if you write the maker

GET YOUR COPY
of free booklet on unique, multi-purpose thermostat

Be among the many to benefit from unique performance of low-cost Fenwal THERMOSWITCH thermostats. Read all about them in free booklet available at no obligation to you. Learn how the Fenwal single-metal shell expands or contracts *instantaneously* with temperature changes, making or breaking totally enclosed electrical contacts. Used to control heat, pressure and other variables. Fast, accurate, sensitive.

Fenwal THERMOSWITCH®
The Precision, Multi-Purpose, Thermostat Control
SENSITIVE...*but only to heat*

MAIL TODAY

FENWAL, INC., 77 Pleasant St., Ashland, Mass.
111 South Burlington Ave., Los Angeles 4, Cal.
Temperature Control Engineers

Please send me the Fenwal booklet "Everything you want in a thermostat."
Name ..... Position .....
Company .....
Street .....
City ..... Zone ..... State .....

BREVITY—Identify by IEN - 6843 if you write the maker

CONTROL . . Pneumatic instrument, locked cover, for pressure, temperature

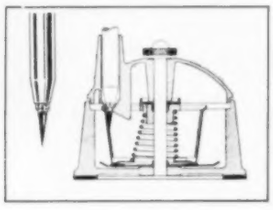
Source: WESTON ELECTRICAL INSTRUMENT CORP.
641 Frelinghuysen Ave., Newark 5, N. J.

Tamper proof assembly features this new design of the company's non-indicating controller for temperature or pressure. A removable cover is held in place with a lock to prevent access to the interior where an adjusting screw permits setting the control point. The lock is located in the face of the housing cover to line up with a bar mounted horizontally on the inside. The cover is lined with a rubber gasket for dust and weather-proof assembly. Overall dimensions are 5¾ by 7¼ inches. Designation is Model 8352, Type 1. Either direct or reverse-acting control can be specified.

BREVITY—Identify by IEN - 6844 if you write the maker

DRAFTING . . Pencil lead pointer particularly for mechanical pencils

Source: ELWARD MFG. CO.
555-59 Paw Paw Ave., Dept. I, Benton Harbor, Mich.



Inserting a pencil through the guide in the cover of this new pointer brings the lead down into angle contact with an abrasive-faced cup. Rotating the cover, using the pencil as the cover handle, will bring the lead down to as fine a point as may be desired. The cup is urged toward center by a light spring to maintain contact between the lead and the abrasive face as the cover is revolved. No particular care is required to prevent breaking the lead. The pointer can be used on wood pencils after the wood has been cut down with a knife.

BREVITY—Identify by IEN - 6845 if you write the maker

STRAPPING . . Redesigned house publication of news on steel strapping and its applications

Signode Steel Strapping Co.
2630 N. Western Ave., Chicago 47, Ill.

Major article in Spring edition of "Signode Seal" concerns use of the company's strapping in shipping marble to the U. N. Secretariat building in New York. There is another article on "Why the Strapping Shortage?" Your name will be added to mailing list upon request to receive the publication.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6846 if you write the maker

BREVITY—Identify by IEN - 6847 if you write the maker

Actually combines 3 types of oven-heating . . . with amazing results in heat-processing

Burners are inverted, in this type of fast-speed "Una-Ray" Oven for drying wallpaper print and vinyl coated paper. Provides—with safety!—the higher temperatures needed for drying plastic coatings.

● THE CARBOMATIC "UNA-RAY" OVEN (gas-fired) combines the advantages of three types of oven-heating: (1) infra-red radiation, (2) convected heat, (3) heated air, with added turbulence. Adapted to a wide range of industrial heat-processing and drying operations, this new oven cuts equipment cost and reduces installation space required . . . provides instant heat, with record efficiency in heat utilization and lowest fuel expense . . . speeds up operations . . . sets new safety standards . . . decreases rejects and spoilage . . . insures lowest-cost, more uniform, highest-quality production. Temperatures are controlled accurately and automatically—in any number of different heat zones. A big step forward in oven design-engineering!

Write for Bulletin N-7

CARBOMATIC CORPORATION, Pioneer Mfrs. of Infra-Red Heat Generators
24-81 47th STREET LONG ISLAND CITY 3, N. Y.

CARBOMATIC "UNA-RAY" OVEN

BREVITY—Identify by IEN - 6848 if you write the maker

Amazing ALEMITE OIL-MIST
AUTOMATIC LUBRICATION SYSTEM
Revolutionizes Machinery Lubrication

Unbelievably simple system atomizes oil into mist, distributes it through tubing to bearings. Bathes all bearing surfaces with fresh, clean, cool oil film. Uniformly maintains oil film on all sliding, rubbing, rolling parts regardless of variations in load, temperature or speed! No "peaks and valleys" of lubrication.

Fully automatic—eliminates waste and the uncertainties of the "human element." Extends bearing life as much as 17½ times. Seals bearings against dirt and abrasives. Cuts oil consumption as much as 90%. Greatly reduces the number of oils needed.

Desk-Top Demonstration, No obligation

A note on your Company letterhead will bring a trained Alemite Lubrication Representative to your offices. In a brief yet thorough Desk-Top Demonstration, he will tell you how Alemite Oil Mist can provide more positive lubrication at lower cost than you ever thought possible. Write Alemite Division of Stewart-Warner, Dept. K-71, 1850 Diversey Parkway, Chicago 14, Illinois

STEWART WARNER

Alemite OIL-MIST Automatic Lubrication System

BREVITY—Identify by IEN - 6850 if you write the maker

For original installation or for repair, a Tal on-the-job bender for pipe or tubing does in seconds work that otherwise takes many minutes. Because a Tal repays its cost so quickly, and does it time and again, thousands are in use everywhere. Write today for factual bulletin.

Tal Bender, Inc. Dept. 2 Milwaukee 2, Wis.

BREVITY—Identify by IEN - 6851 if you write the maker

PROFIT HAS MANY FORMS when the material is DUREZ

DEAD-END TROUBLE IS AVOIDED on close-tolerance job

Good mold design and molding technique and the excellent flow characteristics of Durez general-purpose grade phenolic combine to offset potential reject trouble. In this TV rotator assembly, three pin-shaped bosses conform to close tolerances, though formed in dead-end cavities. Control of interval between these bosses and a costly machined shaft insert helps assure an efficient and accurate finished product.

SAME MOLD SERVES when new model is added

This original flow-meter door is a 1-piece, 3½ pound molding of Durez phenolic, 16½" x 20" overall. A new instrument was added to the line. Study showed that the desired smaller face opening could be obtained simply by adding a curved Durez insert in the large molding. The new piece required only a small mold and the manufacturer saved money in tool and press-time costs. Short-cuts with Durez plastics are one of the many potential economies that your custom molder's know-how can bring into your operations.

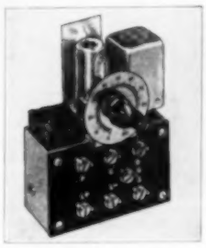
YOUR PLANS are more likely than ever to include top standards of uniformity today. Why not obtain them with one or more of the 500 Durez phenolic compounds, each of which has its own combination of mechanical, electrical, and chemical characteristics? To keep abreast of new uses of the phenolics, write on your office letterhead for our monthly "Plastics News." Durez Plastics & Chemicals, Inc., 1707 Walck Road, North Tonawanda, New York.

DUREZ Phenolic Plastics that fit the job

BREVITY—Identify by IEN - 6853 if you write the maker

RELAY . . Time delay unit employs a cold cathode trigger tube

Source: FARMER ELECTRIC CO.
23-B Mossfield Road, Waban 68, Mass.



New design of the company's Type-CK relay, previously described IEN-2824-51 as a timing unit, is available for repeat-cycle operation as in on-off timing for life test and laboratory work and as a holding relay following an initial impulse. Change-over is made from the former to the latter by removing a neon glow lamp from its socket. In repeat-cycle operation a delay potentiometer at the front of the assembly can be set for an interval between 0.25 and 1.5 seconds.

The load relay is single-pole double-throw design with contact rating at 2 amp. on 110-volt ac. An isolation transformer is included in the unit so the initiating-switch contacts are independent of the power line and one can be grounded. Overall dimensions are about 4 by 3 by 5 inches.

BREVITY—Identify by IEN - 6854 if you write the maker

TUBE . . Internally finished steel for use in cylinders, shock absorbers

Source: TUBE REDUCING CORP.
50 Main Ave., Wallington, N. J.

To minimize machine work

Bore diameter ranges from 1½ to 6 in. in a new line of steel tubing that has been cold worked and internally finished to a point where no machining is required in application of the tube as a power cylinder in connection with leather or other soft packing. A light honing operation prepares the internal surface for metal piston rings. Scratches, pits and other irregularities are ironed out when the tube is sized by pressure exerted between dies and a mandrel.

BREVITY—Identify by IEN - 6855 if you write the maker

WOOD WORKING . . Miter saw for universal saw blade positioning

Source: MITEREX CO.
178-82 Weeden St., Pawtucket, R. I.

List price is about $80 for this new miter sawing equipment in which the saw blade can be placed in any position or angle, height, direction with reference to the 15 by 30-in. base. The assembly measures 29 in. in overall height. Shipping weight is 50 pounds. The blade is guided to ride free in a predetermined line. Other hand saws than the one shown can be employed in the same guiding mechanism.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6856 if you write the maker

PALNUT SELF-LOCKING TRADE MARK NUTS and FASTENERS

THE PALNUT COMPANY 10 Cordier St., Irvington 11, N. J.

BREVITY—Identify by IEN - 6857 if you write the maker

3 VALUES!
★ One Piece Construction
★ Wide Wire Range
★ Economically Priced

Strongly constructed—all in one piece—yet small and compact, to fit in tight quarters. UL approved. Only 6 sizes cover a range from No. 14 to 1,000,000 CM. Specify Blackburn and get a quality lug in the low price field.

JASPER BLACKBURN CORP.
35 Madison St., St. Louis 6, Mo., CEntral 3007

BREVITY—Identify by IEN - 6858 if you write the maker

Use Spencer Vacuum

There's no production time lost when Spencer Vacuum is used to clean soaking pits, brick kiln flues and remove boiler fly ash. While still hot, tons of debris are removed every day at temperatures up to 500°F.

The car wheel pit above is 30 feet deep. One man, at the top of the pit, empties it in minutes instead of hours. No dust is distributed in the plant.

Plant housekeeping costs nothing when Spencer Vacuum is installed. It increases production—reclaims materials, conveys foods—and in off hours—cleans the plant itself. 132 ways to save described in Bulletin 144.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
4394

BREVITY—Identify by IEN - 6859 if you write the maker

Cost-Chopper FOR INDUSTRIAL CAFETERIAS

THE RIGHT CHOPPER
With ten models to choose from in the balanced U. S. line you can get the chopper that's exactly right for your needs.

MAKES TASTIER MEAT
Precision-built and correctly engineered, these choppers cut cleanly without mashing or heating meat. Meat fresh-cut this way in your own kitchen looks, keeps and tastes better.

Model 2512 CHOPPER
Modern Enterprise design. Smooth, easy-to-clean. Juicer-Puree attachment available at small extra cost to make tomato juice, apple sauce, sweet potato and strained vegetables and fruits of all kinds. Quality construction assures long life.

U.S. BERKEL Write for Illustrated Literature on Slicers • Choppers • Meat Saws • Tenderizer Machines

U. S. SLICING MACHINE COMPANY, INC.
701 Berkel Building, La Porte, Indiana

BREVITY—Identify by IEN - 6860 if you write the maker

Symbol GRIGOLEIT OF QUALITY AND ECONOMY IN MOLDED PLASTICS

BRUSH HOLDER CAP
Screw-top caps to secure brush spring in motor.

SHIPPING CLOSURES
Protects threads from dirt and damage. Made to order in various sizes.

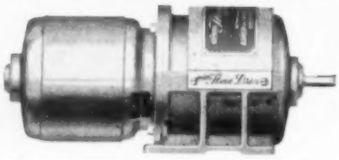
Your Key to Sales Success is molded plastics by Grigoleit . . . the symbol of quality and economy. A complete line of Pulls, Knobs, Pendants and threaded specialties ready for prompt delivery. Write for your copy of the full illustrated catalog today.

THE GRIGOLEIT COMPANY
"Over Twenty Years in Plastics"
742 E. NORTH ST., DECATUR, ILLINOIS

BREVITY—Identify by IEN - 6861 if you write the maker

Let us prove Gyrol Fluid Drives—

FREE TRIAL OFFER



We want you to see for yourself how American Blower Type TM Gyrol Fluid Drive Units save you power, provide smooth acceleration, shock absorption and overload protection—all without cost or obligation to you.

We invite you to try a TM unit in actual production on your machine, in your shop.

Here's what to do. Write us direct. Describe the machine on which you want to use the TM unit and state horsepower of present motor. Then, we'll contact you and arrange installation and trial period.

AMERICAN BLOWER

American Blower Corporation, Detroit 32, Michigan
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

BREVITY—Identify by IEN - 6862 if you write the maker

FREE! 44-Page Book

gives you complete data on wire rope and chain fittings

Save time! Save trouble! Laughlin's authoritative, illustrated Catalog-Data Book answers all types of problems involving wire rope and chain fittings. Read all about the wide array of *standard* Laughlin items. Dispense with needless, costly "specials!" Yours for the asking!

LAUGHLIN
THE MOST COMPLETE LINE OF DROP FORGED WIRE ROPE AND CHAIN FITTINGS

GET YOUR COPY NOW ...at no cost or obligation

THE THOMAS LAUGHLIN CO.
17 Fore St., Portland 6, Maine

Please send Catalog Data Book #150 to:
Name ..... Position .....
Company .....
Street .....
City ..... Zone ... State .....

BREVITY—Identify by IEN - 6863 if you write the maker

COMPRESSOR . . Portable machine, gasoline engine drive, rates 105 cfm.

Source: GARDNER-DENVER CO.
50 S. Front St., Quincy, Ill.

Model WH-105 is new assembly of the company's two-stage water-cooled air compressor with a Hercules Model QXD-5 six-cylinder gasoline engine. Engine and compressor are mounted on a wheel-equipped base with the necessary controls, radiators and air receiver for portable application. Air is compressed to 28 lb. in the first stage. It is cooled back to near atmospheric temperature in a radiator-type intercooler and then is delivered to the second stage for final discharge pressure. An unloader pilot operates the suction valves within a fixed range and throttles the engine to idling speed when there is no demand for air. The engine accelerates to full speed just prior to compressor operation.

The engine employs an integrally-cast crankcase and cylinder block to maintain alignment. It employs a seven-bearing crankshaft that is balanced statically and dynamically. A gear-driven oil pump provides pressure lubrication. A water pump maintains circulation through the cooling passages.

BREVITY—Identify by IEN - 6864 if you write the maker

TESTING . . Hand hydraulic press to mount test specimens in plastic

Source: BUEHLER LTD.
163-67 W. Wacker Drive, Chicago 1, Ill.

All Speed Press designates new hand-hydraulic plastic-molding machine to mount metallurgical specimens in opaque Bakelite or transparent plastic. Mold heating and cooling blocks are interchangeable for 1, 1¼, 1½-in. mountings. The machine employs premolds. Operation is controlled by a pyrometer, a timer and thermostat, all integral.

BREVITY—Identify by IEN - 6865 if you write the maker

MANAGEMENT . . How to figure cost adjustment to comply with Ceiling Price Regulation 22 of the OPS

Office of Price Stabilization
Tempo E, Washington 25, D. C.

Just to be sure that the ceiling price on your product is correct, we would like to suggest that you send for a copy of Ceiling Price Regulation 22. It not only reproduces the regulation but includes a set of work sheets, a sample calculation and a set of suggestions on how to figure cost adjustment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

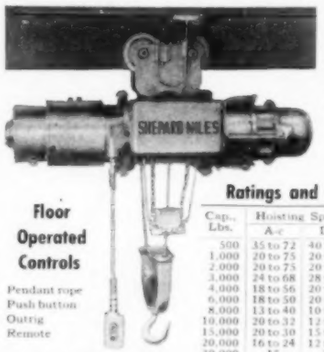
BREVITY—Identify by IEN - 6866 if you write the maker

BREVITY—Identify by IEN - 6867 if you write the maker

FOR WIDEST RANGE OF HOIST TYPES, CAPACITIES & CONTROLS

With Outstanding Wear-Eliminating Features

Single or multiple-speed control with positive load brake. "Balanced drive" distributes all stresses evenly. Oil bath lubrication assures long, trouble-free operation. Sealed housing keeps out abrasive dust and moisture. Anti-friction Bearings.



Types
Lug suspension
Hook suspension
Base type
Push trolley
Geared trolley
Motor-driven trolley

Floor Operated Controls
Pendant rope
Push button
Outrig
Remote

Ratings and Capacities

Cap., Lbs.	Hoisting Speeds A-c	Hoisting Speeds D-c	Lift, Feet
500	35 to 72	40 to 68	Up to 110
1,000	20 to 75	20 to 75	Up to 185
2,000	20 to 75	20 to 52	Up to 185
3,000	24 to 68	28 to 55	Up to 166
4,000	18 to 56	20 to 43	Up to 166
6,000	18 to 50	20 to 38	Up to 128
8,000	13 to 40	10 to 29	Up to 163
10,000	20 to 32	12 to 23	Up to 138
15,000	20 to 30	15 to 22	Up to 87
20,000	16 to 24	12 to 17	Up to 87
30,000	15	13	Up to 43
40,000	10	10	Up to 43

Write for free literature

Shepard Niles CRANE & HOIST CORPORATION
456 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

BREVITY—Identify by IEN - 6868 if you write the maker

Speed Up Production
Secure Greater Uniformity
Save Time, Labor, Fuel

with more than 2,000 manufacturers now using

ROSS INDUSTRIAL AIR SYSTEMS

DRYING . . . . . BAKING
CURING . . . . . COOLING
HEAT TREATING . . . AGING
CONDITIONING

ROSS PAINT FINISHING Systems insure complete coordination of all component parts—conveying, cleaning, rust proofing, dry-off, cooling, painting, baking, hardening. Long experience and outstanding facilities for designing, engineering, manufacturing and installing insure maximum production and operating efficiency with ROSS built equipment. Catalogs on request.

J. O. ROSS ENGINEERING CORPORATION
MANUFACTURERS OF AIR PROCESSING SYSTEMS
444 MADISON AVENUE NEW YORK 22, N. Y.
Chicago • Detroit • Boston • Los Angeles • Montreal • London

BREVITY—Identify by IEN - 6869 if you write the maker

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM HIGH ACCURACY SCALE
Another Detecto-Gram Scale for your precision weighing jobs. Use this Detecto-Gram Super Sensitive Model #74-02 where hair-line accuracy is essential, where an error in the smallest fraction of an ounce may affect your profit.

DETECTO SCALES • INC.
MAKERS OF FINE SCALES SINCE 1900
547E PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

BREVITY—Identify by IEN - 6870 if you write the maker

INVINCIBLE
Vacuum Units Reclaim:

bolts broken glass chemicals coffee cork crushed stone dirt explosives fabricated parts fertilizer flour fly ash fly lint felt gold grindings lead liquids nuts paper dust plastics oils revetlings sand sawdust silica dust soap shot soapstone spices sugar talc and MANY MORE.

Model 809-B—SHP

★ *By recovering or reclaiming almost anything that will pass through a vacuum hose, Invincibles quickly repay their costs . . .* Invincibles also serve as vacuum cleaners, keeping plants clean, safe and more productive by removing all industrial dust and dirt . . . Over 100,000 units are in use—5,000 for over 25 years . . . Ask for FREE BOOKLET illustrating uses of Invincible Vacuum Units.

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

BREVITY—Identify by IEN - 6871 if you write the maker

PANGBORN Hydro-Finish gives better tool room results...

in a fraction of the time!

SIMPLIFY the manufacture and maintenance of tools, dies and molds with versatile Pangborn Hydro-Finish. It reduces usual costly handwork and produces a surface virtually free from directional grinding lines.

And on the production line, use Hydro-Finish to eliminate many tedious finishing operations. It reduces cost and time involved in buffing. It lessens fatigue failure and cuts manufacturing costs.

Hydro-Finish is the new, versatile impact blasting process that uses a fine mesh abrasive suspended in water. Tolerances are held to .0001 of an inch.

FIND OUT TODAY how Hydro-Finish can pay off for you. Write for Bulletin 1400-A to PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Maryland.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control.

Pangborn
BLAST CLEANS CHEAPER
with the right equipment for every job

BREVITY—Identify by IEN - 6873 if you write the maker

HANDLING . . Stacking machine loads cartons or cases on pallet

Source: LAMSON CORP.
303-5 Lamson St., Syracuse 1, N. Y.

New size has been added to the company's automatic pallet-loading machine to take pallets measuring 36 in. in width as compared to the previous minimum of 40 inches. As in the initial design, cartons or cases are conveyed to the top of the assembly where they are positioned and pushed onto the pallet on an elevator. As each layer is completed the elevator moves down one increment so the next layer can be pushed into place until the pallet is at the bottom of the elevator travel completely loaded.

Empty pallets are stored in magazine in the machine so a new one is presented and the elevator is moved back to top position to start a fresh loading cycle. The pallets after loading leave the machine on a roller conveyor.

BREVITY—Identify by IEN - 6874 if you write the maker

GLARE PROOFING . . Liquid material sprays on windows to exclude sunlight

Source: REX SUPPLY CO.
140-44 S. Highland Ave., Ossining, N. Y.

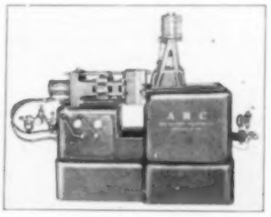
List price is $4 per gallon

Sunshade Blue is a new translucent paint that develops a permanent bond on glass and dries rapidly to a weather-proof frosted coating that cuts down glare from sunlight. Application is by brush or spray.

BREVITY—Identify by IEN - 6875 if you write the maker

DIE CASTING . . Air operated machine rates to one pound in zinc castings

Source: A B C DIE CASTING CO.
337-43 W. 112th Place, Chicago 28, Ill.



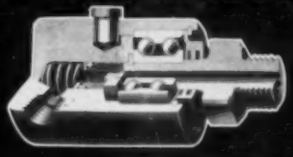
New machine connects to a shop line for air-pressure operation. It is equipped with a 200-lb. gas-fired melting pot for zinc. Operation is controlled for adjustable timing dwell on opening and closing of the toggle and on injection of the molten metal in an automatic cycle determined by controls.

Castings to 1 lb. can be made in die blocks measuring 8 by 10 in. by 1½ in. in thickness. Maximum die-block thickness is 3 in. for each part. The machine can be operated on free cycling speed to approximately 1,000 shots per hour.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6876 if you write the maker

FAWICK ROTORSEAL
PROVIDES TROUBLE-FREE TRANSMISSION OF AIR AND LIQUIDS



If your machine problem requires the transmission of air or liquids from stationary to rotating machine members, a FAWICK ROTORSEAL will provide the trouble-free, practical answer.

Precision-made ROTORSEALS are available in either single or multiple passage units, producing an absolute sealing of air, liquids, or gases under pressure. They are equally effective in vacuum applications. Thousands of installations have proved the high efficiency of FAWICK ROTORSEALS.

FAWICK AIRFLEX CO., INC.
9919 CLINTON ROAD • CLEVELAND 11, OHIO

For complete information on a FAWICK ROTORSEAL to suit your specific application, write to the Home Office, Cleveland, Ohio.

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

BREVITY—Identify by IEN - 6877 if you write the maker

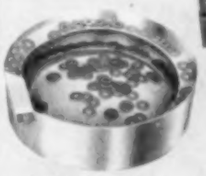
SYNTRON "Vibra-Flow" PARTS FEEDERS

Will feed parts . . . small, medium or large . . . of various shapes and materials . . . single file . . . in oriented position . . . at variable rates . . . WITHOUT DAMAGE . . . to grinders and presses, inspection and packaging devices, and other automatic processing equipment.

Units are very compact. Operate by controlled electromagnetic vibration—no motors, gears, cams, belts, etc., to require expensive maintenance.

Feeding ⅛" Dia. Grommets

Feeding Steel Slugs

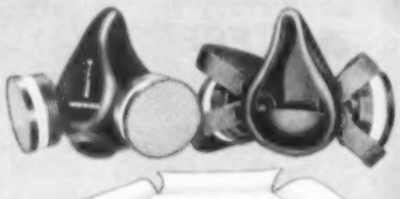


Feeding Flat Washers

Catalog data upon request. Or send details of your problem along with sample parts to . . .

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 6878 if you write the maker



NEW
WILLSON "800" Series
Chemical Cartridge Respirator
for More Wearing Comfort

- Lightweight, molded rubber facepiece—soft, snug-fitting.
- Flexible, rolled feathered edge and chin cup—comfortable, secure, effective seal.
- Improved exhalation valve—out of the way at bottom of facepiece.
- Dual cartridges absorb and filter gases and vapors. Organic vapor cartridges approved by U. S. Bureau of Mines.

WILLSON
Dependable Products Since 1870

WILLSON PRODUCTS, Inc., 217 Washington St., Reading, Pennsylvania

BREVITY—Identify by IEN - 6879 if you write the maker

EFFICIENCY + PLUS

THE DEPENDABLE **ROPER**
FOR GENERAL PURPOSE PUMPING

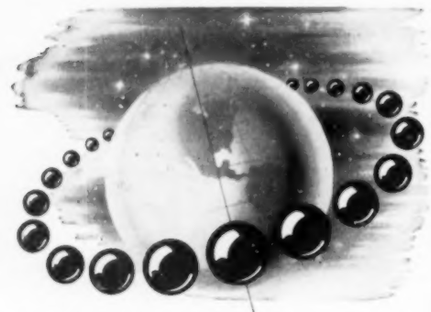
Efficient, dependable pumps noted for endurance and high records of performance. They serve tank trucks, refineries, process plants and general industries — they will do an equally productive job for you. Series 3600 pumps feature hardened helical pumping gears, high-lead bronze bearings, split packing gland, adjustable relief valve. Standard or special fitted models; pressures to 60 P.S.I. — capacities 40 to 300 G.P.M.

Send for Booklet "HOW TO SOLVE PUMPING PROBLEMS"

ROPER *Rotary Pumps*

GEO. D. ROPER CORP.
207 Blackhawk Park Ave.
ROCKFORD, ILL.

BREVITY—Identify by IEN - 6880 if you write the maker



Around the World it's

HOOVER BALLS

made of

CHROME STEEL - CARBON STEEL - STAINLESS STEEL BRASS - BRONZE AND MONEL METAL

"America's Foremost Ball Manufacturer"

HOOVER BALL AND BEARING CO.
Ann Arbor, Michigan

BREVITY—Identify by IEN - 6881 if you write the maker

Send today for 25-DAY FREE TRIAL!

● Amazing grinder head speeds grinding, polishing, buffing and snagging operations. **Prove it** yourself with free trial! Write us NOW.

NU-MATIC GRINDERS

● Just inflate the rubber drum with 3 to 10 lbs. air pressure, depending on operation. You easily vary the air pressure as well as type and number of grit . . . to achieve an infinite variety of operations on any surface. Dynamic balance . . . no chatter or bounce. Eliminates hand filing.

Faster, better, easier . . . on stands, portable tools, backstand idlers . . . wherever ordinary grinders are used . . . on any kind of surface. On flat surfaces, Nu-Matic presents far greater contact area because Nu-Matic is resilient! And it produces a straight pattern . . . like a hand finish.

Write NOW for your 25-day FREE TRIAL, complete instructions and illustrated literature. Send trial purchase order, or request a trial Nu-Matic on your letterhead. No obligation. Nu-Matic Grinders, Inc., 8221 Carnegie Ave., Cleveland 3, Ohio.

$17.50 each
F.O.B. Cleveland
(Wheel with abrasive band, only)

JOBBERS! SALES AGENTS!
Many profitable territories still open.
Write us today!

BREVITY—Identify by IEN - 6882 if you write the maker

DESIGNING FOR DEFENSE?

GET ENGINEERING DATA ON

SYNCHRON
TRADE MARK

TIMING MOTORS - TIMING MACHINES
CLOCK MOVEMENTS - D. C. MOTORS

SYNCHRON synchronous motors meet your requirements for compact power. Pulls up to 8 oz. direct load continuously at 1 R.P.M. Gear trains can be furnished to convert to any speed. Unusual actions can be incorporated in movement. Our engineers will be glad to work with you in developing motors for special applications.

Hansen D.C. motors powered servo units which won Army-Navy E. Used also in aircraft instruments and radio control mechanisms.

HANSEN MANUFACTURING CO. INC. PRINCETON, INDIANA

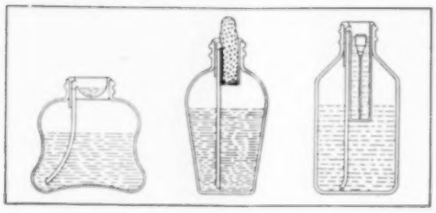
Please send SYNCHRON engineering data.

NAME .....
FIRM ..... STREET .....
CITY ..... STATE .....

BREVITY—Identify by IEN - 6883 if you write the maker

DISPENSING . . Insert well and tube fit into polyethylene flexible bottle

Source: PLAX CORP.
P. O. Box 1019-A, Hartford 1, Conn.



Checkwell is a new polyethylene reservoir or well joined to a length of tubing of the same material and force-fitted into the neck of a flexible polyethylene bottle. Depressing the sides of the bottle forces liquid contained in it up through the tube and into the well where it is made accessible for use without exposing the main supply.

Three typical designs are shown in the illustration. They include a shallow dish-type unit for use with pads in applying fluid locally, a deeper well equipped with a sponge or felt for moistening or direct application of fluid and a well that can be equipped with a hypodermic and kept covered by antiseptic ready for connection to a syringe.

BREVITY—Identify by IEN - 6884 if you write the maker

CLEANING . . Portable vacuum machine for wet or dry operation, 7/8 hp. motor

Source: HILD FLOOR MACHINE CO.
738-42 W. Washington Blvd., Chicago 6, Ill.

Model 115-50 is a new industrial design in the company's line of vacuum-cleaning equipment in which a 7/8-hp. universal motor, for operation on 110-volt ac. or dc., drives a multiple-stage blower to create suction equivalent to a closed water lift of 62 inches. The machine employs a galvanized-steel tank holding 1 1/4 bu. of dry dirt or 10 gal. of liquid. It connects through swivel intake and exhaust joints made of aluminum and brass to serve a 1 1/2-in. suction hose, 10 ft. in length, and a steel-tube floor tool with a 12-in. head in standard design.

The motor is sealed from the interior of the machine and is cooled by its own fan so suction air does not enter into it. Mounting is on casters for free movement along a floor. The motor, machine head and blower are secured in place on the tank by quick-acting clamps. Overall dimensions are 21 in. in width by 33 in. in height. Weight is about 74 pounds.

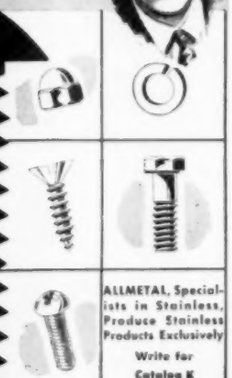
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
Try our suggestions in the index, page 102

BREVITY—Identify by IEN - 6885 if you write the maker

THINKING OF STAINLESS?

THINK OF **ALLMETAL** FOR THE FINEST IN **STAINLESS STEEL FASTENERS**



FOR QUALITY AND DELIVERY

Complete facilities under one roof assures controlled quality and immediate delivery. Standard and "AN" specs. Specials to order.

ALLMETAL, Specialists in Stainless, Produce Stainless Products Exclusively

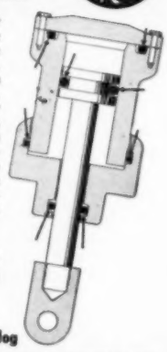
Write for Catalog K

MANUFACTURERS SINCE 1929
ALLMETAL SCREW PRODUCTS COMPANY, INC.
33 GREENE STREET NEW YORK 13, N. Y.

BREVITY—Identify by IEN - 6886 if you write the maker

O-RINGS by INJECTION MOLDING

Dependable Hydraulic Seals



Minnesota O-Rings function in air or gas systems as well as in hydraulic systems. Air cylinders . . . hydraulic valves . . . hoisting mechanisms . . . water pumps . . . bottling machines . . . refrigerators . . . motors . . . lubricators . . . are a few of their uses. Minnesota's exclusive injection process makes possible very close dimensions, uniformity in mass production and downright economy. We use special compounds of synthetic rubber to meet your exact requirements. Let us quote on your next hydraulic packing installation.

Manufacturers of all types of small rubber parts

Write for O-Ring Catalog

MINNESOTA RUBBER & GASKET CO.
3640 WOODDALE AVE., MINNEAPOLIS 16, MINN.

BREVITY—Identify by IEN - 6887 if you write the maker

ARGUTO OILLESS *conveyor roll bearings*

● Operate faultlessly without lubrication under wet or dry conditions.

● Available in any quantity on quick delivery in complete range of sizes for all standard and special rollers.

● Smooth operation on both driving and driven rolls.

● For original installation or quick replacement on present installations.

Just one of many applications where it pays to specify Arguto.

Write for bulletin 200 today.

20 years without a drink

ARGUTO OILLESS BEARING CO.
PHILADELPHIA 44, PENNA.

BREVITY—Identify by IEN - 6888 if you write the maker

Eliminates FOGGING and STEAMING of Eyeglasses and Goggles — Glass or Plastic —

K-LENS-M *Anti-Fogging* **LIQUID**

Make your own test—Order a sample bottle of K-LENS-M Anti-Fogging Liquid complete with spray pump. $2.00 postpaid.

Easily applied, K-LENS-M Anti-Fogging Liquid forms an invisible coating that resists formation of fog or moisture on lens surfaces . . . brings clear vision to eyeglass wearers under severe conditions of hot steaming vapors, freezing temperatures, humid summer heat, or body perspiration . . . overcomes hazards of fogged goggles . . . increases worker efficiency and safety.

K-LENS-M Modern Liquid Lens Cleaner for Glass or Plastic

Thoroughly cleans glass or plastic eyewear — without scratching, smearing or leaving a film. Does the job faster, at lower cost. Used in hundreds of plants. In Cabinet Bottles, Pints, and Gallons.

Remember K-LENS-M for Clear Vision

K-LENS-M Dispenser Cabinet With Anti-Fogging Station

COMPLETE LENS CLEANING UNIT
Holds large bottle of K-LENS-M Lens Cleaner. Dispenses Tissues, one at a time. Has Disposal Space for used Tissues. Attachment holds a bottle of K-LENS-M Anti-Fogging Liquid. All metal. Baked Enamel Finish. Built to Last. Compact size for plant and office.

THE WILKINS CO. INCORPORATED
Cortland 24, N. Y. Easy to INSTALL — USE — SERVICE

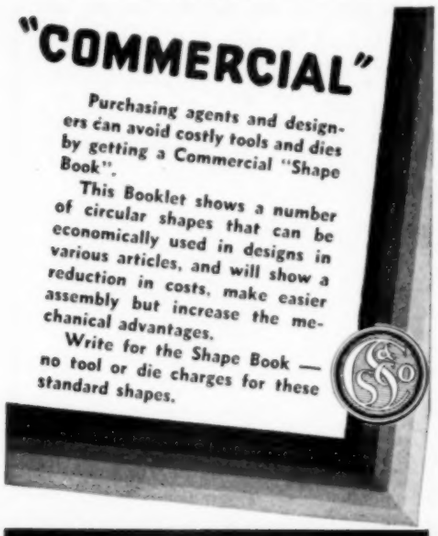
BREVITY—Identify by IEN - 6889 if you write the maker

"COMMERCIAL"

Purchasing agents and designers can avoid costly tools and dies by getting a Commercial "Shape Book".

This Booklet shows a number of circular shapes that can be economically used in designs in various articles, and will show a reduction in costs, make easier assembly but increase the mechanical advantages.

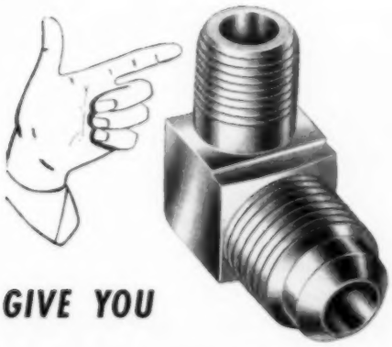
Write for the Shape Book — no tool or die charges for these standard shapes.



THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

BREVITY—Identify by IEN - 6890 if you write the maker

WEATHERHEAD BRASS TUBE and PIPE FITTINGS made of EXTRUDED stock



GIVE YOU

1. **GREATER STRENGTH** than castings because extrusion eliminates porosity of metal.
2. **STRENGTH EQUAL TO FORGINGS** and precision specifications with minimum machining.
3. **LARGE FLAT WRENCH PADS** for quick, tight grip; easy installation and removal even in hard-to-get-at places.

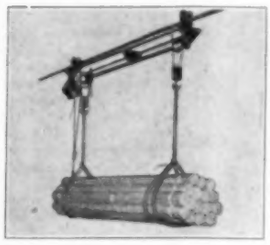
WRITE for helpful Weatherhead Catalog F-1456 on Standard Fittings. Address Dept. F-1, The Weatherhead Company, 300 E. 131st St., Cleveland 8, Ohio.

The Mark of Quality
WEATHERHEAD
FIRST IN HYDRAULIC CONNECTIONS
Industrial Division • Cleveland 8, Ohio

BREVITY—Identify by IEN - 6892 if you write the maker

HOIST . . Double drum electric, load rating to 500 lb. at 25 fpm.

Source: FLINCHBAUCH CO.
753 S. Court St., York, Pa.



Load shaft in this new hoist assembly carries two wire rope drums on standard 48-inch centers and is belt connected to a driving motor equipped with reversing control. The assembly is available with swivel supporting trolleys to ride a specified track. It rates 500 lb. at 25 fpm., 250 lb. at 50 fpm. A desired speed can be selected by installing pulleys of the required diameter at the connecting belt. While 48-in. center distance is standard, other lengths can be specified to meet given requirements.

BREVITY—Identify by IEN - 6893 if you write the maker

VALVE . . Solenoid operated with explosion proof solenoid enclosure

Source: ROSS OPERATING VALVE CO.
118-22 E. Golden Gate Ave., Detroit 3, Mich.

Prevents hazard due to sparking

The company announces availability of a cast-aluminum explosion-proof enclosure for the operating solenoid in its line of pilot-controlled valves. The new construction applies where fire and explosion hazards exist. The assembly meets specifications by Underwriters Laboratory, Inc., for Class 1, Group D, Air Break Type.

Provision is made for standard conduit connection in valve sizes from ¼ to 1¼ in. on straight-way, three-way, four-way, and four-way five-port designs for single-solenoid operation. It can be used also for double-solenoid momentary operation of the company's base-mounted pilot-controlled valves.

BREVITY—Identify by IEN - 6894 if you write the maker

PRESS TOOLS . . Vacuum lifter keeps operator's hands out of a press

Source: INDUSTRIAL PRODUCTS CO.
2801 N. Fourth St., Philadelphia 33, Pa.

New design of the lifting tool, previously described IEN-2542-48, now employs cups with a molded-in bolt so no metal is exposed. The cups are available in neoprene or natural rubber. Cup diameter is 1½, 2½ and 4 inches. Tool length is 15 inches.

The lifter is attached to a work piece by striking it against a surface to establish vacuum in the cup. The work is released by depressing a lever to break the vacuum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6895 if you write the maker

TRABON LUBRICATING EQUIPMENT
Delivers a Measured Amount of Lubricant
• To Any Bearing . . .
• In Any Location . . .
• Under Any Condition

In the plant of Cans, Inc., Chicago, a Trabon system services 221 points of lubrication on this machine, which produces 310 cans per minute!

Since 1930 Trabon has been engineering, manufacturing, and installing centralized lubricating systems . . . for plain bearings, roller bearings, and ball bearings . . .

Since 1922 Trabon has been helping industry solve its lubricating and bearing problems.

Call Trabon in regard to your lubrication requirements.

Trabon
OIL AND GREASE SYSTEMS

TRABON ENGINEERING CORP.
1814 East 40th Street
Cleveland 3, Ohio

BREVITY—Identify by IEN - 6896 if you write the maker

Jacketed Pumps

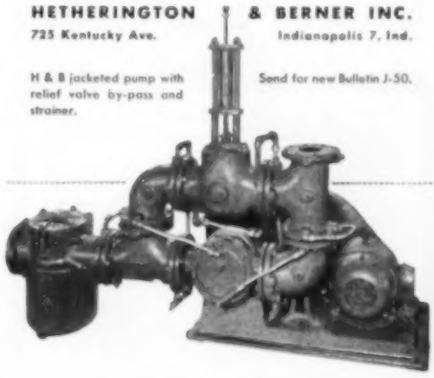
for handling viscous materials

Pumps for H & B Jacketed Systems are made especially for us to fit the flanges of H & B jacketed fittings. These pumps are engineered to provide maximum efficiency in handling viscous materials. H & B fittings are designed with a double wall forming an all-over jacket, completely insulating the interior line, with no dead spots or unprotected places.

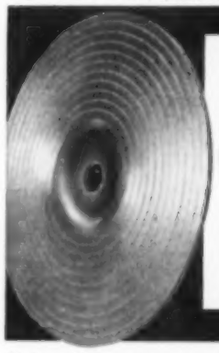
HETHERINGTON & BERNER INC.
725 Kentucky Ave. Indianapolis 7, Ind.

H & B jacketed pump with relief valve by-pass and strainer.

Send for new Bulletin J-50.



BREVITY—Identify by IEN - 6897 if you write the maker



NORTON
REINFORCED
HUB WHEELS
Last Longer . . .
Do More Jobs!

Unique fabric construction and tough safety web molded into the hub side make the Norton Reinforced Hub Wheel the safest, longest lasting wheel of its type. And its hard, sharp ALUNDUM abrasive, special resinoid bond and file-like surface assures a fast, clean cut without spalling or loading.

VERSATILE!

Now you can cut down and smooth up weld bead . . . notch casting gates and risers for easy removal . . . do many rough grinding and finishing jobs . . . all with the same wheel. Send for folder on how to cut grinding time and costs. NORTON COMPANY WORCESTER 6, MASS.

NORTON
ABRASIVES
Making better products to make other products better

BREVITY—Identify by IEN - 6898 if you write the maker

famco

LEADING MANUFACTURER OF ARBOR PRESSES

OFFERS 32 MODELS . . . BENCH AND FLOOR TYPES

Powerful Famco hand-operated arbor presses are used today in tens of thousands of plants throughout the world. They deliver up to 15 Tons pressure—have gibs for exclusive front and side ram adjustment. These Famco presses add flexibility to production lines because they require no additional power source. Reinforced semi-steel frame castings, alloy steel rack and pinion. See your dealer, or write for literature.

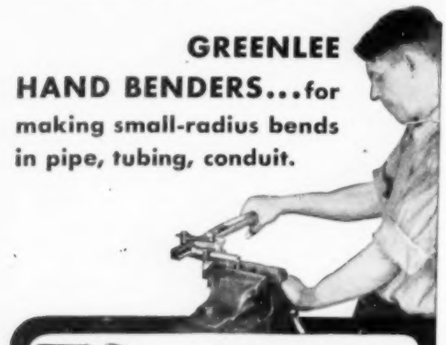
FAMCO MACHINE CO., 1303 18th St., Racine, Wis.

famco (COST CUTTING) machines

ARBOR PRESSES • DRILL PRESSES • METAL CUT-OFF SAWS
POWER PRESSES • FOOT PRESSES • SQUARING SHEARS

BREVITY—Identify by IEN - 6899 if you write the maker

GREENLEE HAND BENDERS...for making small-radius bends in pipe, tubing, conduit.



Quickly make smooth, accurate bends without flattening or kinking. Ideal for conduit installations or fitting pipe and tubing on machines . . . especially designed to form neat bends for sharp corners and nooks. Various models and sizes for steel, copper, brass and aluminum tubing or pipe, rigid or thin-wall conduit.

Free Folder and Booklet on the Greenlee Bender line. Write Greenlee Tool Co., 1867 Herbert Avenue, Rockford, Illinois.

GREENLEE

BREVITY—Identify by IEN - 6900 if you write the maker

THE BEST FEATURES OF STEEL & CARBIDE ...TO SAVE MONEY ON PRODUCTION DRILLING

*PATENTED

MEYCO

Carbide Inserted Bushings live longer, cost less in the long run.

Here is a bushing that combines the best features of steel and carbide; the protection of steel and the long life of carbide. First cost: slightly higher than ordinary steel bushings; their life: many, many times as great. In addition to such obvious savings, MEYCO bushings increase the life of drills and reamers, produce accurate work for a longer period of time, save on machine-down time and on non-productive man-hours.

Made to A.S.A. Standards: look into this "better" bushing, and cash in on the savings; write for catalog No. 18.

PUMP MAKER SAYS: "We have a jig setup where four holes are held to a limit of plus or minus .0005" on the spacing. After completing 150,000 parts, MEYCO bushings show no sign of wear."

W. F. MEYERS CO., INC., BEDFORD, INDIANA

BREVITY—Identify by IEN - 6901 if you write the maker

Fast economical production of your special headed parts by Cleveland's extrusion methods

It pays you to search for a means to produce *stronger* special headed and threaded parts or to make them *faster* or at *lower cost*. Cleveland's Kaufman Process may be the answer to one or more of these factors. Send blue prints and "specs" for estimate.

CLEVELAND *Top Quality* FASTENERS

Send blue prints and specifications of your specially designed parts to

THE CLEVELAND CAP SCREW COMPANY
2917 EAST 79TH STREET • CLEVELAND 4, OHIO

BREVITY—Identify by IEN - 6902 if you write the maker

PUNCHING . . Hand hydraulic tool punches knockout holes in steel

Source: H. K. CALDWELL
4742-46 Miracle Drive, San Diego 15, Calif.

Aluminum housing in this new hydraulic punch encloses a piston and threaded stem and mounts a hand-operated pump with connecting oil passages and check valves in the cylindrical handle. Pressure is applied by the pump to draw the stem toward the housing base. A plunger in the rear head is employed to open a check valve in the piston for pressure release so the piston can be pushed manually back to the start of its movement. The tool takes standard punches and dies such as those manufactured by Greenlee Tool Company.

Starting with a 7/16-in. pilot hole through which the stem is inserted after placing the die, the tool will punch hole diameters through 10-gage steel to one sufficiently large to pass a 3-in. conduit. Dimensions over the main tool body are 6 in. on the flat base, 5 in. in height and 4 in. in greatest width. The stem projects 4 in. below the base. The pump handle projects 8 inches. Weight is about 6 lb. without die or punch. List price is about $38.

BREVITY—Identify by IEN - 6903 if you write the maker

DRIVE . . Variable speed transmission, multiple cams and one way clutches

Source: REVCO INC.
4 E. Franklin Ave., Minneapolis 4, Minn.

Reversing lever has been added to the company's Model-14 Zero-Max transmission, previously described IEN-3-50. The lever can be actuated manually or by a cam or solenoid for instant reversing at any speed setting. Overall range is between 0 and 425 rpm. in either direction based on input at 1,750 rpm. In neutral position there is no movement of the output shaft while the input shaft turns.

The new design is known as Model 14R. It has the same overall dimensions as the original assembly or 4¾ by 2½ by 3½ inches. The unit is intended particularly for applications such as throttles, governor controls and for instrument and equipment operation within the 10 in. lb. limit.

BREVITY—Identify by IEN - 6904 if you write the maker

MANAGEMENT . . Booklet for employees to acquaint them with Social Security payments

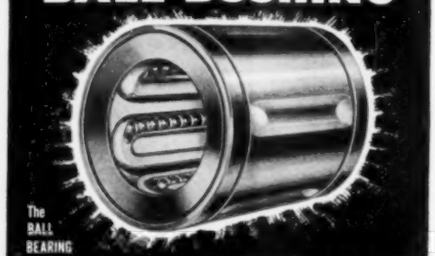
Industrial Relations Institute
82 Beaver St., New York 5, N. Y.

Social Security and its meaning to the individual is subject of new 32-page booklet intended for distribution by a company to its employees. Title is "Your Social Security Benefits". List price is 25 cents for single copies, with a discount for quantity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6905 if you write the maker

BALL BUSHING



The BALL BEARING for your **LINEAR MOTIONS**

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A BALL BUSHINGS.

And now hundreds of original equipment manufacturers use the low cost Commercial Series B BALL BUSHINGS which were developed for support of linear motions in competitively priced, volume manufactured products where super precision is not essential.

Alert designers can now make tremendous improvements in their products by using BALL BUSHINGS on guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.

Improve your product. Up-date your design and engineering with BALL BUSHINGS!

LOW FRICTION • LONG LIFE
ELIMINATES BINDING and CHATTER
SOLVES SLIDING LUBRICATION PROBLEMS
LASTING ALIGNMENT • LOW MAINTENANCE

Now manufactured for ½", ⅝", ¾", 1" and 1½" shaft diameters.

Write for descriptive literature and the name of our representative in your city.

THOMSON INDUSTRIES, INC. Dept. I
MANHASSET, NEW YORK

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS—A MAJOR IMPROVEMENT AT A MINOR COST

BREVITY—Identify by IEN - 6906 if you write the maker

FILL-IN NAME-PLATES QUICKLY *with*—

THIS IS ONLY ONE OF A FULL LINE OF NAME-PLATE STAMPING MACHINES MADE EXCLUSIVELY BY

The ACROMARK company
7 MORRELL ST., ELIZABETH 4, N. J.

BREVITY—Identify by IEN - 6907 if you write the maker

JABSCO *SELF PRIMING* **PUMPS**

Patented and Patents Pending

the pump with the DUPONT **NEOPRENE** impeller
(oil resistant)

BRONZE, STAINLESS STEEL & IRON CONSTRUCTION —CAPACITY TO 50 GALLONS PER MINUTE

1 **MORE CAPACITY**—for its weight, size and price.
2 **SELF-PRIMING**—starts instantly with high suction lift.
3 **ONE MOVING PART**—tough, long-lived.
4 **GEARLESS**—impeller outlasts metal gears.
5 **TROUBLE FREE**—simple construction.
6 **ECONOMICAL**—low cost—low maintenance.

LIQUID TRANSFER AND CIRCULATING FOR ALL INDUSTRIES

JABSCO PUMP COMPANY
2031 N. Lincoln Street • Burbank, California

BREVITY—Identify by IEN - 6908 if you write the maker

DANGER 440 VOLTS
SAFETY FIRST WEAR YOUR GOGGLES
OFFICE
FIRE HOSE
CAUTION NO CLEARANCE

NEW TYPE EASTERN "A" STANDARD

The most effective warning sign for work areas. Wide base red angle-iron frame won't blow over. Yellow free-swinging sign, black lettering on both sides. Choice of eight standard legends, also reflectorized.

Portable unit stands 27-in. high by 18½-in. wide; folds and locks 18-in. x 18-in. sign in place; flags removable; weighs only 13 lbs.

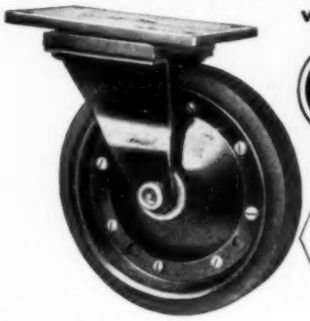
Eastern Metal also makes general industrial and safety signs, shown at left — all official designs as specified by **American Standards Association** — new legible lettering, heavy-gauge steel, flexible baked enamel. Prompt delivery, economical price. **Send for illustrated folder and price list.**

INDUSTRIAL • SAFETY • OFFICE • TRAFFIC
EM SIGNS

EASTERN METAL of Elmira, Inc., Elmira Heights 3, N. Y.

BREVITY—Identify by IEN - 6909 if you write the maker

Efficient Materials-Handling at the "Grass Roots" level with



Colson

CASTERS

Model 4-807-65 Swivel fork caster—ideal for medium weight industrial equipment

● No matter how modern or streamlined your truck fleet, it's no better than the wheels and casters it rolls on. Surprising—how a few dollars spent for Colson casters can increase the efficiency of hundreds or thousands of dollars worth of rolling stock. There's a Colson for every need—from light casters for office furniture to heavy-duty jobs of 1500 pounds capacity.

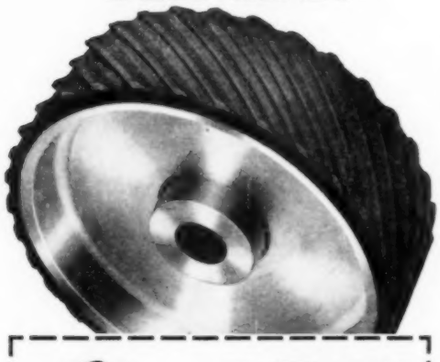
Colson also manufactures a wide range of trucks—hand trucks, platform trucks, box trucks, drum and barrel trucks and Lift-Jack Systems. Write us or consult your phone book (under "Casters" or "Trucks—Industrial") for the Colson representative near you.

Write today for free 68 Page Caster Catalog

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

BREVITY—Identify by IEN - 6910 if you write the maker

WANT TO DOUBLE BELT LIFE?



New "61" CONTACT WHEEL by CARBORUNDUM

TRADE MARK

will accomplish these things for you on *most* abrasive belt applications in the metal working field:

- Belt Life Greatly Increased.
- Increase Production Per Belt.
- Reduce Costs.
- Reduce "Down-Time"; Provide More Uniform Finish; Lessen Operator Fatigue.

—LET US PROVE IT TO YOU!—

Ask your CARBORUNDUM representative for a demonstration of this new "61" Contact Wheel in your shop, on your present production line. Or write Department IEN 80-26.

The "61" Contact Wheel is the latest product development from CARBORUNDUM . . . *manufacturer of the only* **complete** *line of bonded, coated and grain abrasives.*

Only **CARBORUNDUM**

TRADE MARK

makes **ALL** *abrasive products*
. . . to give you the proper **ONE**

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York.

BREVITY—Identify by IEN - 6912 if you write the maker

RECORD KEEPING . . Visual board accumulates data for production control

Source: GRAPHIC SYSTEMS
55 W. 42nd St., Room 441, New York 18, N. Y.

Boardmaster trade names recently improved assembly of aluminum board with corner clips. The board takes individual cards measuring 1⅜ by ⅞ in., or multiples of this size to set up operations against dates, jobs or quantities in stock or other variables to record progress and indicate activity in relation to a predetermined schedule. The standard cards will set up 25 columns and the same number of lines on the 38½ by 24-in. board. Several boards can be assembled to make a larger unit.

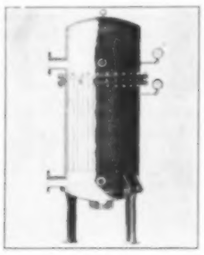
List price is $37 to about $50 depending on the number of boards and cards that are ordered. Construction includes aluminum in riveted assembly with a Masonite backing sealed into the frame. Board weight is 9 pounds.

Bulletin, "Visual Control News," 4-pages, describes in illustrated news form some of the current applications. It supplements the previously published 24-page bulletin, "Seeing Is Achieving," which supplies detail illustrated description.

BREVITY—Identify by IEN - 6913 if you write the maker

FILTERING . . Shell and tube unit for water, has integral surge tank

Source: R. P. ADAMS CO.
219 E. Park Drive, Buffalo 17, N. Y.



Type WFF is new design in the company's line of shell and tube water filters. The assembly is essentially that of a previously developed Type WFS with the addition of a high dome at the top carrying the outlet. This dome retains a sufficient quantity of air to serve as the pressure medium for back washing when a quick-opening back-wash valve is operated.

In normal operation raw water enters the side connection near the bottom and fills the housing surrounding the cylindrical elements. It passes inward through the walls of these elements for movement upward through their centers to the outlet in the side near the top. Precoating the elements with a material such as diatomaceous earth adds to the filtering ability. Accessory equipment to apply this filter aid, either continuously or as a precoat, is available in assembled form.

Sizes of single units range from 14 to 168 sq. ft. of filter surface. Installation can be made singly or in batteries of several units to meet given requirements. Air that is entrained in the liquid accumulates in the top so no other source for pressure air is required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6914 if you write the maker

ACCURATE METERING

Almost any Liquid or Volume

From 1/30 to 1000 gallons per minute can be accurately metered by performance-proven NIAGARA Meters. Nutating piston principle combines large capacity with slow-flow sensitivity. Sizes range from ½" to 6" diameter. There are meters for oils, chemicals, cold or hot water and many other liquids. Investigate them today by sending coupon for complete details.

Please send me information on the complete line of Niagara Meters.

Liquid .....
Flow g.p.m. ..... Temp. .....°F
Name .....
Company .....
Address .....

BUFFALO METER CO.
2929 MAIN STREET BUFFALO, N. Y.

BREVITY—Identify by IEN - 6915 if you write the maker

CASH-ACME *Valves* DEMANDED BY INDUSTRY *Everywhere*

Type "A-31" Small Volume Pressure Reducing Valve

paper making equipment manufacturer specifies

CASH-ACME

Consistency is important in the pulp and paper industry. The proper density of the mixture determines the quality of the stock. The same holds true of CASH-ACME Automatic Valves . . . consistency of quality and performance make these valves an important addition to pulp and paper equipment. In fact, more and more industries are specifying CASH-ACME when there's a precision job of pressure reducing and regulating to be done. Write for free literature describing the part CASH-ACME Automatic Valves can play in the successful operation of your products.

CASH ACME SILENT SENTINEL *Automatic Valves*

A. W. CASH VALVE MANUFACTURING CORP.
6612 E. Wabash Avenue
Decatur, Illinois

BREVITY—Identify by IEN - 6916 if you write the maker

ORDERS from Uncle Sam?

SEE NOX-RUST FOR YOUR RUST PREVENTIVES

To fight the battle against rust, Uncle Sam has drafted rigid requirements for rust preventives that are used in packaging metal parts and products. To find the proper product conforming with these Federal Specifications, call on NOX-RUST . . . the America's leading manufacturer of rust preventive products, NOX-RUST has the answer for you . . . all prepared in a handy chart that shows Federal Specifications, uses, applications and specific product recommendations. For your free copy of this chart, phone or write today.

STOP RUST WITHOUT OIL OR GREASE

Here's a NEW way to package parts and machines without oil or grease coatings. NOX-RUST's new Vapor-Wrapper delivers your parts "factory fresh"—sparkling clean—ready for immediate assembly or use. Send for the "HOW" book that shows case histories.

NOX-RUST CHEMICAL CORPORATION
Rust Preventive Division
2487 S. Halsted St. • Chicago 8, Ill.
BALTIMORE • PHILADELPHIA
DETROIT • SAN FRANCISCO

BREVITY—Identify by IEN - 6917 if you write the maker

FOR TOP EFFICIENCY

ALLIS-CHALMERS Dry-Type Transformers

MOTORS, LIGHTS, AND THERMAL EQUIPMENT operate most efficiently at rated voltage. And Allis-Chalmers dry-type transformers provide a quick and easy means of bringing power at the proper voltage right to the load.

These transformers are lightweight and easy to install. They provide flexibility in matching changing loads. The dry-type transformer meets safety requirements for indoor application . . . requires no costly fire-proof vaults. Units are rated up to 300 kva, 600 volts and below.

For more information about Allis-Chalmers dry-type transformers call your nearby Allis-Chalmers district office. Ask for bulletin 61B6382. Allis-Chalmers, Milwaukee 1, Wis.

A-3388

ALLIS-CHALMERS A-C

BREVITY—Identify by IEN - 6918 if you write the maker

SQUARE D
for a
Complete Line of
Safety Switch
ENCLOSURES
for Special
Atmospheric
Applications

ALL APPROVED BY
UNDERWRITERS' LABORATORIES, INC.

Write Square D Company, 6060 Rivard St., Detroit 11, Mich., for further details

Explosion resisting
NEMA Type 7 and 9

Raintight
NEMA Type 3

Weatherproof, and Dust-tight
NEMA Types 3, 4 and 5

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

BREVITY—Identify by IEN - 6919 if you write the maker

HANSEN
"PUSH-TITE"
PNEUMATIC-HYDRAULIC
COUPLINGS

Positive shut-off in socket immediately upon disconnection by removal of plug. To connect, simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressures. Swivel action prevents hose kinking. Pipe or hose connections. Socket, brass; plug, steel. Size range 1/8" to 1".

Also straight-through, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

BREVITY—Identify by IEN - 6920 if you write the maker

Step up production with time-saving Bostitch Metal Stitchers

A "SANDWICH" of synthetic rubber between two aluminum members of an airplane part is here fastened by a Bostitch Metal Stitcher.

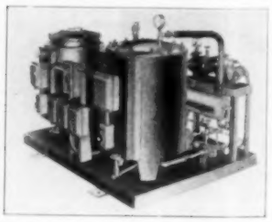
Save time, work, money by using Bostitch Metal Stitchers to fasten aluminum, copper, plastics, cold rolled steel, or similar materials in any combination. These stitchers often cut assembly time 50% to 90%. They frequently replace cementing, spot welding, riveting, or bolting. Write now for new booklet telling the story of Metal Stitching. BOSTITCH, 464 Mechanic St., Westerly, Rhode Island.

BOSTITCH® fastens it better, AND FASTER, with wire
ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

BREVITY—Identify by IEN - 6921 if you write the maker

OIL CONDITIONING . . Filter unit and vaporizer to remove oil impurities

Source: U. S. HOFFMAN MACHINERY CORP.
103 Fourth Ave., New York 3, N. Y.



New assembly for economical application on batches of oil from 25 to 40 gph. has been added to the company's larger oil-conditioning equipment, previously described IEN-13190-47. Overall dimensions of the new unit are 54 by 42 by 37 inches. The equipment includes the company's cartridge-type filter, an electrically-heated vaporizer and the required oil-handling pumps and electrical control.

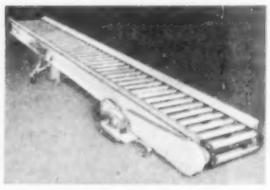
Applications include conditioning of hydraulic, lubricating, run-in, transformer oils that are taken out of service for the treatment.

The oil is passed through the filter first to remove metal particles, gums, tars, residues, soot, carbon, dirt, sand, acid. Then foreign matter such as free and emulsified water, fuel dilution, air, gases are extracted in the vaporizer.

BREVITY—Identify by IEN - 6922 if you write the maker

CONVEYING . . Portable slat assembly to load, unload crates, boxes to 800 lbs.

Source: SAMUEL OLSON MFG. CO.
2420-22 Bloomingdale Ave. W., Chicago 47, Ill.



Wood or steel slats, as specified, are mounted between power-driven chains that ride over sprockets at the two sides of this new No. 2080 portable conveyor. The drive is equipped with a ¾-hp. geared-head motor for connection through a 25-ft. extension cord and plug to 110- or 220-volt ac. line, as required by the user.

The conveyor frame is made in lengths from 15 to 25 ft. and from 24 to 36 in. in width. The assembly includes a hydraulic elevating and lowering device. The upper end can be set at any height from 38 to 62 in. above the floor on a 20-ft. conveyor with the lower end at 11 to 13 inches. The motor has a reversing control. Standard speed is 40 fpm.

BREVITY—Identify by IEN - 6923 if you write the maker

SCREW MACHINE PARTS . . Information booklet of suggestions on design and drafting standards

National Screw Machine Products Association
13208-12 Shaker Square, Cleveland 20, Ohio

"Buyers' Guide", second edition, is a 16-page booklet intended to assist in design of screw machine parts. List price is 25 cents. Representative topics are factors that increase cost, design considerations, drafting standards, definitions of terms, thread sizes. Please send your remittance direct.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6924 if you write the maker

HOT MELT PLASTIC COATINGS
for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER

Dip

Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
470 Frelinghuysen Avenue, Newark 5, N. J.

BREVITY—Identify by IEN - 6925 if you write the maker

from sea level
to the substratosphere . . .

Withstands temperatures from 500° to −85° F.

Originally developed to meet the drastic temperature range aircraft encounter, Varglas Silicone Electrical Tubing and Sleeving may be able to lick your tough insulation problems! Here's why: Varglas Silicone is . . .

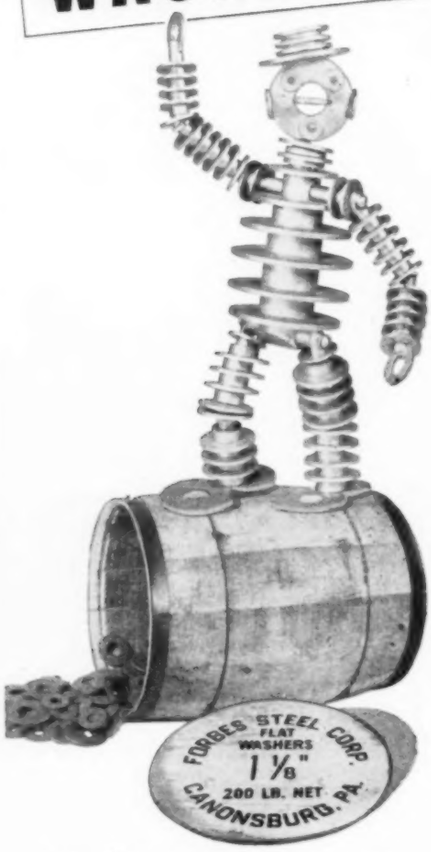
- **Efficient at 500° F.** — flexible at −85°F.
- **Moisture-Resistant** — to lubricating oil, salt water, acids and mild alkalis.
- **Fire-Resistant** — non-flaming in nature.
- **Abrasion-Resistant** — pliable and non-fraying.
- **Dielectrically Strong** — average readings up to 7,000 volts.

Available in various NEMA colors in several types and grades of tubing, sleeving, lead wire and tying cord.

VARFLEX *Sales Co., Inc.*
306 N. Jay St., Rome, N. Y.

BREVITY—Identify by IEN - 6926 if you write the maker

Your Best Source For
FLAT-STEEL
WASHERS



Forbes Offers dependable service . . . *and QUALITY* . . . in Flat-Steel Washers. U.S. Standard Sizes, packed in 200# kegs. Our present range of manufacture:
½" ⅝" ¾" ⅞" 1" 1⅛" 1¼" 1½".

Your orders and inquiries will receive our prompt attention.

FORBES STEEL CORPORATION
CANONSBURG, PENNSYLVANIA

BREVITY—Identify by IEN - 6928 if you write the maker

Now—have a spic and span floor around machines!

Here's a flooring tip for the man who likes his plant to look as neat as his office.

Tuff-Tex* is a unit-laid, plastic-asbestos tile which is *highly resistant to greases and oils.*

It withstands heavy traffic, has high flexural strength, can take floor vibrations. It also resists impact from dropped objects.

Left unwaxed, Tuff-Tex provides safe, non-slip footing.

Quickly installed, easily cleaned, it is proving a "natural" for commercial kitchens, laboratories, service stations and such places as well as for factory areas.

FREE literature shows the wide range of colors. Write THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley St., Chicago Heights, Ill.

AND FOR THE OFFICE, USE TILE-TEX*... THE QUALITY ASPHALT TILE

TILE-TEX FLOORING PRODUCTS

*REGISTERED TRADEMARK, THE FLINTKOTE COMPANY

BREVITY—Identify by IEN - 6929 if you write the maker

THINSTEEL *LOCKS UP MR. O. V.* (Production Enemy)

What a grand feeling it is to have smooth running production of cold-rolled strip steel parts — consistently getting maximum yield per ton, *particularly important now when every ton of steel must be stretched as far as possible.* That's the typical result in plants using CMP Thinsteel, precision cold-rolled strip in low carbon, high carbon (annealed or tempered) and stainless grades.

Where Thinsteel deliveries are possible under today's conditions you can have the same experience, too. It gives you control of OVERSIZE VARIATION in thickness, not uncommon in ordinary strip, and "locks out" for good this enemy of maximum parts per ton.

Now, CMP's problem is to get more Thinsteel production to match demand. We are meeting it with new mills and other increased facilities — and we are keeping the expansion program moving.

CMP THINSTEEL TRADE MARK

the Cold Metal Products co.
YOUNGSTOWN 1, OHIO

NEW YORK • CHICAGO • DETROIT • INDIANAPOLIS
LOS ANGELES • ST. LOUIS

BREVITY—Identify by IEN - 6931 if you write the maker

TESTING . . Multi-meter instrument for general purpose electric tests

Source: NIAGARA ELECTRICAL INSTRUMENT CO.
556-61 Ellicott St., Buffalo 3, N. Y.

All-In-One Model 188 is a new assembly of voltmeter, ammeter, wattmeter and ohmmeter with plug-in connections, selector switches and a phase location indicator for ac. electric circuit testing and to read resistance values on dc. checking. The assembly measures 17 by 16 by 7 in. and weighs 33 pounds. Individual scale lengths are 3.6 inches.

There are three ranges between 100 and 600 volts, six current ranges maximum at 1.5 to 300 amperes. Power is read between 300 and 240,000 watts. Frequency range is 25 to 133 cycles. Resistance is to 200 ohms and also to 200 megohms. Accuracy of the ammeter and voltmeter is within 1 per cent. Accuracy of the wattmeter is within 2 per cent.

BREVITY—Identify by IEN - 6932 if you write the maker

CONVEYING . . Permanent magnet promotes traction on roller conveyor

Source: ERIEZ MFG. CO.
1303 E. 12th St., Erie, Pa.

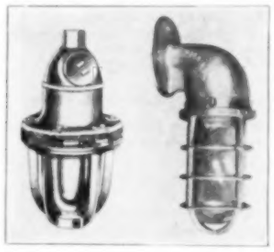
Illustrated details in Bulletin 553

Three types are included in new design of a permanent-magnet element for application on live-roller conveyors handling pipe, tube, rod, sheet, plate and structurals. The element applies beneath the rollers and induces magnetism in them so they, in turn, attract and hold the work to move it forward. Sizes and capacities are subject to specification.

BREVITY—Identify by IEN - 6933 if you write the maker

LIGHTING . . Incandescent fixtures, explosion proof and vapor tight design

Source: KILLARK ELECTRIC MFG. CO.
Easton & Vandeventer Aves., St. Louis 13, Mo.

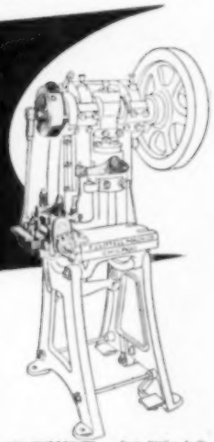


Aluminum is employed in the bodies, guards and supplementary parts in this new line of explosion proof and vapor-tight lighting fixtures. The line also includes switches, boxes, entrance heads, junction fittings, unions and plain fittings. Reflectors can be specified with fixtures in various designs for indoor and outdoor installation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6934 if you write the maker

FOR LOW COST AND BIG RESULTS
Feed Your Presses With
LITTELL
STYLE "M" AUTOMATIC
ROLL FEED



FOR SPEED . . . With Style "M" automatic feeding your press can easily produce 9,000 stampings an hour at 200 strokes per minute, or 4,600 stampings an hour at 100 strokes per minute.

FOR VERSATILITY . . . Style "M" feeds left to right, right to left and front to back. Feed direction can be reversed by simply reversing clutch. Feed lengths per stroke are 0 to 4⅝" with standard gears and 0 to 8½" with compound gears.

FOR ADAPTABILITY . . . Style "M" is adaptable to any standard punch press. It feeds coil stock up to 8" wide and up to .035" thick (17 gauge).

FOR SAFETY . . . Style "M" automatic feeding keeps hands and fingers away from danger, prevents costly accidents.

FOR DURABILITY . . . Style "M" is built with hardened and ground feeding rolls and the other quality features that have made Littell Roll Feeds accurate and durable since 1918.

FOR ECONOMY . . . Style "M" brings you a big saving in price. It gives your presses the lowest insurance rate. It cuts your cost per stamping by multiplying press output.

WRITE FOR CATALOG

F. J. LITTELL MACHINE CO.

District Offices: Detroit, Cleveland

ROLL FEEDS • DIAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES

4133 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

BREVITY—Identify by IEN - 6935 if you write the maker

CONTROL POWER BETTER

ROCKFORD CLUTCHES

BREVITY—Identify by IEN - 6936 if you write the maker

PERFECTED TAPER makes the difference in American Wedgbelt Sheaves! A few turns of just three set-screws and any American Taper-Bushed Wedgbelt Sheave is INSTANTLY TIGHT or QUICKLY RELEASED. Write for Wedgbelt Drives Bulletin giving complete range of sizes and simple drive selection tables.

AMERICAN WEDGBELT DRIVES

Perfected Taper Makes The Difference

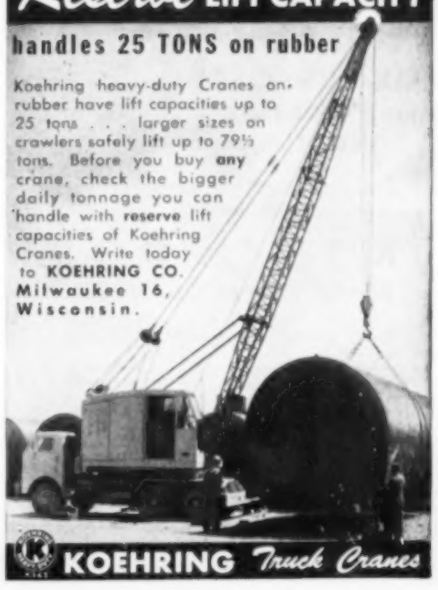
The American Pulley Company 4242 Wissahickon Ave., Phila. 29, Pa.

BREVITY—Identify by IEN - 6937 if you write the maker

Reserve LIFT CAPACITY

handles 25 TONS on rubber

Koehring heavy-duty Cranes on rubber have lift capacities up to 25 tons . . . larger sizes on crawlers safely lift up to 79½ tons. Before you buy **any** crane, check the bigger daily tonnage you can handle with **reserve** lift capacities of Koehring Cranes. Write today to **KOEHRING CO.** Milwaukee 16, Wisconsin.



KOEHRING *Truck Cranes*

BREVITY—Identify by IEN - 6938 if you write the maker

MORE WORK between grinds with T-J CUTTERS

Less breakage... Lower Cost!

Your die costs go down . . . and you can raise the feed . . . using T-J Die Sinking Milling Cutters! Their advanced design helps you get utmost *accuracy, speed* and *efficiency* from your machine. T-J cutters made from a standard, extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. They're *extra rugged* . . . hold a sharp edge longer . . . less breakage! Wide range of T-J standard styles and sizes. Send for new catalog 150. The Tomkins-Johnson Co., Jackson, Mich.

FOR TOUGH JOBS SPECIFY T-J

TOMKINS-JOHNSON
DIE SINKING MILLING CUTTERS

BREVITY—Identify by IEN - 6939 if you write the maker

PREVENT Contraction-Expansion TROUBLE WITH PIPING

This folder shows how you can

- ✔ cut expansion joint costs
- ✔ enjoy virtually maintenance-free service
- ✔ select the joint to meet your particular problem

If you are designing to take care of contraction-expansion problems, this folder can help you. It describes fully the type Dresser Expansion Joint to use under any given condition. Photographs and sectional drawings of each type are shown with complete instructions for ordering and installing. Specification tables are included. Add this valuable folder to your files by writing to Dresser for your free copy today.

DRESSER EXPANSION JOINTS
DRESSER MANUFACTURING DIV.
22 Fisher Ave., Bradford, Pa. (One of the Dresser Industries)

BREVITY—Identify by IEN - 6940 if you write the maker

A REAL ALL-PURPOSE FIRE FIGHTING NOZZLE

TRIPLE-ACTION

ROCKWOOD SG-48 WaterFOG NOZZLE

Fights fires in ordinary combustibles and flammable liquids with ordinary water faster and more economically.

Protects firemen from hot fumes and gases and is easier to handle in action. Operates satisfactorily with a water pressure of 50 p.s.i. at the nozzle. It can be quickly changed to a *high velocity* WaterFOG, *straight* water stream or *low velocity* WaterFOG pattern by a slight turn of the handle.

For industrial plants, refineries, municipal fire departments, etc.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories.

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN - 6941 if you write the maker

CLEANING . . Washing machine for small parts, instrument mechanisms

Source: L & R MFG. CO.
575-79 Elm St., Arlington, N. J.

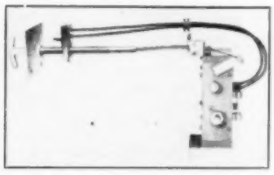
Small pieces, complete instrument mechanisms, watch movements that require cleaning are placed in a Monel Metal mesh work basket measuring 5½ in. in inside diameter by 3⅜ in. in depth in this recently improved washing machine. The basket is suspended from a small universal gear-head motor equipped with reversing control. Basket and motor are supported by a spring on a central shaft so the work basket can be raised or lowered into each of four enclosures or containers. Three of these containers are 1½-gal. glass jars to hold cleaning and rinsing solutions. One is a metal enclosure equipped with an electric heating element and served by a separate motor-driven blower for final work drying.

The machine, previously described IEN-10355-47, measures about 18 by 17 by 23 inches. It is designed for bench mounting and is particularly useful in cleaning small precision mechanisms without having to take them apart.

BREVITY—Identify by IEN - 6942 if you write the maker

SWITCH . . Push-pull assembly opens generator and battery circuits

Source: CLIFFORD B. HANNAY & SON INC.
4950 E. Main St., Westerlo, N. Y.



Initial pull on the operating handle of this new Mak-Saf switch opens the field circuit of the generator in a motor vehicle. Final movement of the pull handle disconnects the battery. The switch is designed primarily for vehicles transporting inflammable materials to protect against electrical fires in the event of collision or short circuit during operation or storage. A signal light operates in the event of a short circuit or electrical leak to expose a fire hazard before serious damage can occur.

Positive contacts are assured by double compression springs exerting 50-lb. pressure. The housing is made of a non-conductive material with terminals insulated. The company is prepared to demonstrate the switch to prospective users.

BREVITY—Identify by IEN - 6943 if you write the maker

MANAGEMENT . . Book on production control stresses the reasons for the procedures described

McGraw-Hill Book Co.
330 W. 42nd St., New York 18, N. Y.

"Production Control," by Franklin G. Moore, titles new 468-page book that lists at $5.50. It describes methods and forms used in industrial production control, particularly in metal-working plants. Emphasis is laid on the reasons why for the methods employed. Sample forms are reproduced.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6944 if you write the maker

WHEN PRECISION COUNTS...

COUNT ON PRECISION

FINE FINISH . . .
ACCURATE, NON-FERROUS TUBING
FROM ⅛" O. D. TO 0.010" O. D.

Here is fine seamless tubing made to Nth degree accuracy to meet the most exacting requirements and performance tests of all products.

"Precision Control" in heat treating is achieved in continuous hydrogen atmosphere annealing furnaces. Makes possible bright, scratch-free, clean finishes . . . extremely close tolerances . . . exact uniformity.

"Precision Controlled" inspection carefully checks all tubing produced. Precision makes tubing in all shapes, and also preformed in most alloys including aluminum, copper, brass, phosphor-bronze, nickel-silver, cupro-nickel, nickel, monel and stainless steel.

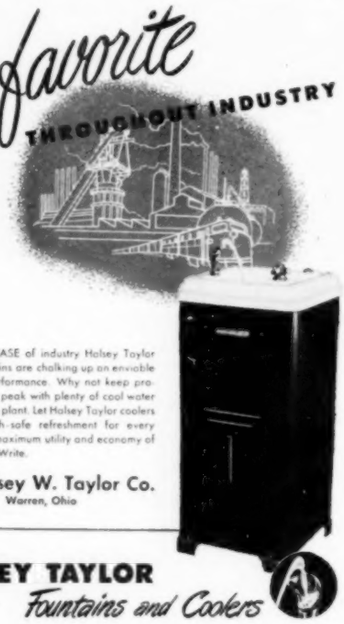
Whatever your tubing needs in designing or manufacturing products which require fine, accurate tubing, count on Precision for precision tubing that meets the most exacting specifications.

PRECISION TUBE COMPANY, DEPT. 7
3824 TERRACE STREET
PHILA. 28, PA.

PRECISION TUBE COMPANY, INC.

BREVITY—Identify by IEN - 6945 if you write the maker

a favorite THROUGHOUT INDUSTRY



IN EVERY PHASE of industry Halsey Taylor Cooler Fountains are chalking up an enviable record for performance. Why not keep production at the peak with plenty of cool water throughout the plant. Let Halsey Taylor coolers provide health-safe refreshment for every worker, plus maximum utility and economy of maintenance. Write.

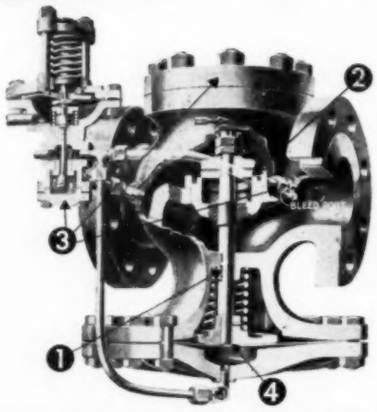
The Halsey W. Taylor Co.
Warren, Ohio

HALSEY TAYLOR *Fountains and Coolers*

BREVITY—Identify by IEN - 6946 if you write the maker

Here's Why SPENCE REGULATORS

CUT COSTS . . . REDUCE MAINTENANCE



Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year-in, year-out. Here are a few of the many Spence features that save you money . . . help keep *maintenance at a minimum.*

1. PACKLESS CONSTRUCTION of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.

2. DURABLE SECO METAL SEATS AND DISCS resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*

3. EASY TO CLEAN WITHOUT DISMANTLING — The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*

4. LONG-LIFE METAL DIAPHRAGMS, under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

FREE BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

Spence

SE-104

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

BREVITY—Identify by IEN - 6948 if you write the maker

it's paper

BUT IT HELPS TO HARNESS THE POWER OF ELECTRICITY

MUCH of the insulation that keeps electricity within bounds in transformers, motors and generators is made of a special Riegel paper called "Electronic Board". This strong paper is free from sulphur, chlorides, and rosins . . . has high dielectric strength and good power factor.

It's another interesting example of Riegel's ability to make paper for almost any need. Perhaps we can help you. Just tell us what you are looking for or send us a sample.

RIEGEL PAPER CORPORATION • 342 Madison Avenue, New York, 17, N. Y.

Riegel

• TAILOR-MADE PAPERS FOR INDUSTRIAL USE •

BREVITY—Identify by IEN - 6949 if you write the maker

NEW TYPE CI

ADJUSTABLE THERMOSTAT

The new Type CI Adjustable Indicating Thermostat is a precise temperature control for gas, liquid, and metal-to-metal applications, such as ovens, hot plate presses, water baths, incubators, proofing cabinets and cold cabinets. It is most useful on units where periodic checks of temperature are required, advisable, or will prove time-saving. The new Type CI is simply and ruggedly built, employing the highly sensitive response action of a solidly liquid-filled bulb and bellows assembly to a snap-acting switch and indicating pointer. The thermostat is adjustable over its entire range by a knurled thumbscrew on the front of the case.

SPECIFICATIONS:
Case 5½ x 5½ x 1⅝", Wt. 3 lbs. Standard ranges: 50° – 350°F and 50° – 600°F, special ranges may be had between –120°F and +600°F. Standard differentials ½°F in circulating liquid, 2°F in air. Switch ratings 10 amp 125 V AC and 5 amp 250 V AC. Write for new bulletin No. 4816T which gives full details.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street
Watertown, Mass.

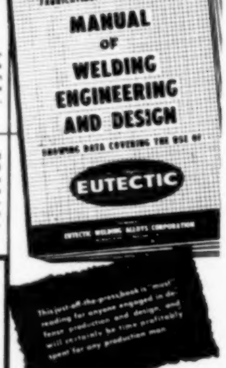
STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

BREVITY—Identify by IEN - 6950 if you write the maker

This new WELDING DESIGN MANUAL

yours . . . FREE for the asking!

EUTECTIC



To assist you in your re-tooling problems . . . or to help you analyze your present welding methods so that you may enjoy maximum speed, efficiency, and economy in many of YOUR production problems, EUTECTIC offers – FREE of charge and without obligation – this new, packed-full-of-information book!

Over 40 pages of helpful data covering basic and advanced welding techniques and designs used in fabricating and assembly. Profusely illustrated with scores of application drawings, weld diagrams, how-to-do-it sketches, etc. In addition, you will find page after page of tables containing latest information on melting temperatures, tensile strengths, corrosion factors, nomenclature, alloy recommendations, etc. Convenient digest size.

THIS PARTIAL LIST OF CONTENTS SHOWS THE WEALTH OF VALUABLE INFORMATION IN THIS HANDY MANUAL– yours FREE

This just-off-the-press book is "must" reading for anyone engaged in defense production and design, and will certainly be time profitably spent for any production man.

Re-Tooling Now? . . . or Later??

Some firms have already started their re-tooling operations, some are still in the planning stage. Regardless of which stage YOU are in, it will pay you to start booking up NOW on the latest welding techniques and on the many ways you can speed productive output while you cut production costs through a revision of your welding designs and techniques. Send for your FREE copy of this helpful manual TODAY.

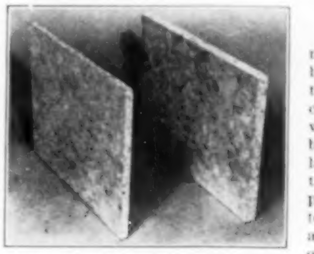
SEE

EUTECTIC WELDING ALLOYS CORPORATION
172nd St. & Northern Blvd. Flushing, New York, N. Y.

BREVITY—Identify by IEN - 6951 if you write the maker

PLASTIC . . Wood base panel for furniture, paneling, veneer base

Source: UNITED STATES PLYWOOD CORP.
55 W. 44th St., Room 500, New York 18, N. Y.



Novoply trade names a new assembly of wood and plastic consisting of a core of medium-size wood chips, front and back faces of $\frac{1}{16}$-in. laminated wood sections, all resin impregnated and fused together under heat and pressure. The outer wood sections present pleasing appearance of the natural wood. Strength is sufficient for all except unsupported structural uses. Two sizes measure 48 by 96 in. and 72 by 144 inches. Two thicknesses are ⅜ and ¾ inch. Both can be cut to specified smaller dimensions to meet requirements.

BREVITY—Identify by IEN - 6952 if you write the maker

PACKAGING . . Latex bound fibers die cut to protect delicate equipment

Source: QUEEN CITY TULATEX CORP.
51 Pine St., Burlington, Vt.

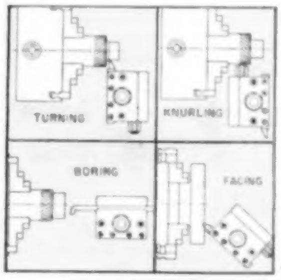
3.5 to 7.75 ounce per square foot

Tulatex and Tulapad are two materials made of curled and non-curled Tampico fibers sprayed with latex. They have been used in upholstery furniture and in motor-vehicle seat cushions for some time. They are now available in die-cut shapes, in multiple or in laminated form to protectively package delicate equipment against the damage in transit and handling. Thickness ranges from 1 to 4 in. in sheet sizes to 16 by 80 inches. The company will advise on application.

BREVITY—Identify by IEN - 6953 if you write the maker

LATHE TOOLS . . Universal holder with screw adjustment for tool height

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.



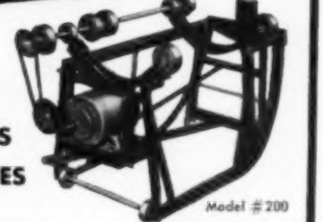
Five sizes are included in this new 10-in-1 universal design of tool holder for application on the company's own make of lathe or on other standard designs. Holder equipment includes a self-aligning knurling head and a pair of medium diamond knurls. Other knurls as well as boring tools, cut-off blades and a set of four ground bits can be specified for boring, cut-off, turning, facing and threading operation on a lathe.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6954 if you write the maker

MORSE PORTABLE ROTATOR

• MIXES
• CLEANS
• TUMBLES



Model #200

A retractable caster frame offers simpler handling of containers with the Morse Rotator. Two Neoprene Drive Wheels prevent creeping. Four drive wheels give positive driving action and two idler wheels with Torrington Needle Bearings make the Morse Rotator a smoothly operating unit. Tipping lever included with each Rotator. Write for free folder showing complete Morse line.

Less motor and drive—Wt. 75 lbs.	$128.50
Complete with motor—Wt. 155 lbs.	$198.50

MORSE MANUFACTURING CO. INC.
123 Dickerson Street Syracuse 2, N. Y.

BREVITY—Identify by IEN - 6955 if you write the maker

50 MILLION CFM of Super-Clean Air . . . by Electro-MATIC

ELECTRO-MATIC* electronic precipitators now installed in the U.S. furnish this huge volume of *super-clean* air for industry, business, public buildings and institutions. Widely recognized for superior performance and economical maintenance, AAF's ELECTRO-MATIC provides highest efficiency collection (from smoke to largest air-borne material) . . . combined with fully automatic operation and self-cleaning features. Unit construction in many sizes readily adapts this filter to most air volume requirements. Request full information from your nearby AAF representative or write for Engineering Bulletin No. 250-E.

**ELECTRO-MATIC Automatic electronic precipitator.*

Today's Best Buy is Better Air!

American Air Filter
COMPANY, INC.
335 Central Ave., Louisville 8, Ky. • In Canada: Darling Bros., Ltd., Montreal, P. Q.

BREVITY—Identify by IEN - 6956 if you write the maker

ILLINOIS STEAM SPECIALTIES

Replace Obsolete Steam-Wasting Units With Illinois Specialties

Equip your radiators with smooth-acting Illinois Supply Valves and sensitive, steam tight Illinois Thermo Traps.

Improve system operation by replacing thermostatic drip traps with Illinois Float and Thermostatic Traps wherever rapid elimination of condensate is essential.

Illinois Float and Thermostatic Traps are made in three Series to meet a wide variety of applications and for operating ranges from 50 pounds pressure to 25 inches vacuum.

Investigate! Compare!
Try Illinois Traps on your worst service and be guided by results!

Write for Bulletins

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

BREVITY—Identify by IEN - 6957 if you write the maker

A fast, efficient 10-lb. indirect arc furnace

for small melts of bronze, iron, or steel

The type NS, 10 KW, 10 lb. Detroit Electric Furnace provides a unit which melts on short notice, melts speedily, and with excellent control of analysis and characteristics. A 6 pound heat of bronze melts in 6 minutes; an equal heat of alloy steel in 12 to 15 minutes. For research, experimental work, and small production, the NS furnace delivers high efficiency and simple, economical operation.

Write for complete information.

FEMA

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: in BRAZIL — Equipamentos Industriais "Eisa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA: M. Castellvi Inc., 150 Broadway, New York 7, N. Y.; MEXICO: Casco, S. de R. L. Atenas 32, Despacho 14, Mexico City, D. F.

BREVITY—Identify by IEN - 6958 if you write the maker

IMPORTANT DATA ON

UNIVERSAL Flexible METAL HOSE

for conveyance of gases, liquids, semi-solids, dust, etc.—for moisture-proof armored conduit and control casings—and many other applications.

Write for CATALOG U-101 — Just Published

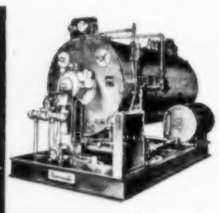
UNIVERSAL METAL HOSE CO.
2131 South Kedzie Avenue Chicago 23, Illinois

BREVITY—Identify by IEN - 6959 if you write the maker

FOR DEPENDABLE

HOT WATER HEATING

At Lowest Cost!



Powermaster®

HOT WATER BOILER UNITS
15 to 500 H. P.

Fully automatic. Completely "self-contained". For light oil, heavy oil, gas and gas/oil firing. Reduce operating costs as much as 40% save man hours. Fully approved. Widely used in leading industrial plants, schools, hospitals, institutions, etc.

WRITE FOR BULLETIN

ORR & SEMBOWER, INC.
860 Morgantown Rd., Reading, Pa. Established 1885

BREVITY—Identify by IEN - 6960 if you write the maker

CONTINENTAL FENCE

MADE OF KONIK 2 STEEL

Keeps Your GUARD UP . . .

CONTINENTAL . . . the only fence made of KONIK steel . . . keeps your guard up every minute of the day for years and years. KONIK is an open hearth steel containing copper, nickel, and chromium for added strength and extra resistance to rust and corrosion.

*Due to present Mandatory Defense requirements for nickel and chromium, two critical war materials, commercial fence will not be available in Konik steel for the duration of this emergency.

*Trade Marks Reg. U.S. Pat. Off.

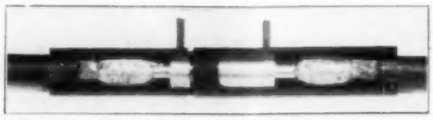
CONTINENTAL STEEL CORPORATION
Kokomo, Indiana
Please send FREE copy of "Planned Protection"—complete manual on property protection.
Name
Address
City State

CONTINENTAL STEEL CORPORATION
KOKOMO, INDIANA

BREVITY—Identify by IEN - 6961 if you write the maker

CONNECTOR . . Insulated fitting for weld assembly in a welding cable

Source: ERICO PRODUCTS INC.
2068-72 E. 61st Place, Cleveland 3, Ohio



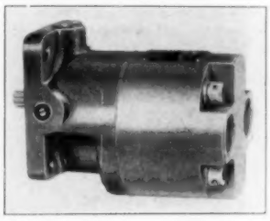
Caddy Connector designates new copper fitting consisting of male and female ends inside non-metallic insulating sleeves. The two fitting pieces are designed for weld connection to the ends of a welding cable by means of the molten copper apparatus, previously described IEN-12232-50. Copper oxide and aluminum are filled into a graphite crucible after the fitting shank and the cable end have been inserted through holes in the side. The mixture is ignited with a spark. Reduction of copper oxide by the aluminum produces molten copper which flows over the two ends to weld them together permanently.

The new connector rates 500 amp. in current-carrying capacity and can be used on cables from 1/0 to 4/0. The female end for the hot line is completely enclosed by its insulator. Fiber pins lock the insulators to the connector body. The rear ends of the insulators can be taped to hold the insulation in place.

BREVITY—Identify by IEN - 6962 if you write the maker

MOTOR . . Gear type pneumatic rates 25 inch pounds on 1,000 lb. air

Source: LEAR INC.
107-11 Abbee Road, Elyria, Ohio



Model RD-7440A is a new aluminum-housed gear-type pneumatic motor for emergency use as a canopy actuator in an airplane in the event that the regular electric actuator becomes inoperative. The motor is suited also for other actuator applications requiring rotary motion of the prime mover. The unit is designed for connection to a 52 cu. in. tank precharged with compressed air at 1,000 pounds. Motor speed is controlled by throttling the air. Rotation is reversible.

The drive shaft has spline connectors. Escape plugs vent air leakage away from the shaft. A mounting flange takes an adaptor. Rotating parts ride on needle bearings.

BREVITY—Identify by IEN - 6963 if you write the maker

COMPRESSORS . . List of service depots with parts and facilities to keep compressors running

Quincy Compressor Co.
304 Maine St., Quincy, Ill.

Company has prepared a list of authorized service depots, 77 in this country, to keep its compressors on the job. It will send you this list upon request together with an assembly of information on what the service involves, suggestions on compressor care and maintenance, other facilities.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6964 if you write the maker

LIGHTWEIGHT ALUMINUM

yet does heavy industrial duty!

Specify ALUMILADDER . . . three types specially built to give harder wear and handle safer, easier. Choice of top companies for maintenance, repair, operations.

AVAILABLE FOR PROMPT DELIVERY

1 ***Platform* ALUMILADDER.** Reinforced under platform for extra strength. Back rungs line up with front steps. Safety lock spreader. Sizes: 8 ft., 10 ft., 12 ft.

2 ***Extension and straight* ALUMILADDERS** Strong corrugated aluminum rungs. Ends are hydraulically expanded into siderails. Sizes: 20-60 ft.

3 ***Step* ALUMILADDER** Extra strong. One operation opens and locks ladder in position. No scissor-action to pinch fingers. Sizes: 4 ft., 5 ft., 6 ft.

FREE data on sizes, prices, construction, etc. Write today. Dept. IEN.

ALUMILADDER
R. D. WERNER CO., Inc., Manufacturers
295 Fifth Avenue, N. Y. 16, N. Y.

BREVITY—Identify by IEN - 6965 if you write the maker

PERMANENT PROTECTION for man and machine with ELASTICONE GUIDE PIN COVERS

Protects Pins and Bushings from nicks & scratches. Prevents injuries to Die Setters & Operators.

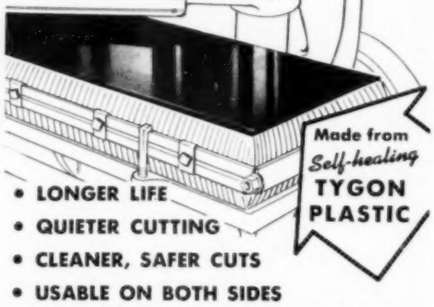
Elasticone Guide Pin Covers are manufactured in all stock sizes. Specify O.D. of Bushing and full open height of Set when ordering.

Write today for Technical Data Sheets

Central Safety Equipment Co.
2200 E. HUNTINGDON STREET
PHILADELPHIA 25, PA.

BREVITY—Identify by IEN - 6966 if you write the maker

CUTTING PADS



- LONGER LIFE
- QUIETER CUTTING
- CLEANER, SAFER CUTS
- USABLE ON BOTH SIDES

Colonial self-healing Cutting Pads on clicker machine or hand die cutting often double, even triple die life. Clean, sharp cuts, no bounce backs, no splinters. Use Colonial Cutting Pads to cut leather, rubber, plastics, candy, paper, fibre, cork, felt, cloth, light gauge metals.

Write for Sizes, Prices — Address Dept. IEN-751

COLONIAL RUBBER CO.
RAVENNA, OHIO

BREVITY—Identify by IEN - 6967 if you write the maker

PREMOLDED CALKING

for corrugated sheet metal roofing, siding

Calk as you erect! Fabco Corrugated Calking Strips are the labor-saving shortcut to weathertight corrugated construction. Premolded to fit all standard sheet corrugations, of compositions of rubber or asphalt, the calking strips are quickly and easily installed as sheets are laid. They form a durable seal at all openings where sheet corrugations meet flat surfaces such as flashings at ridge, gutter, corner and curbing and around doors and windows. They also seal around the shank of the fastener.

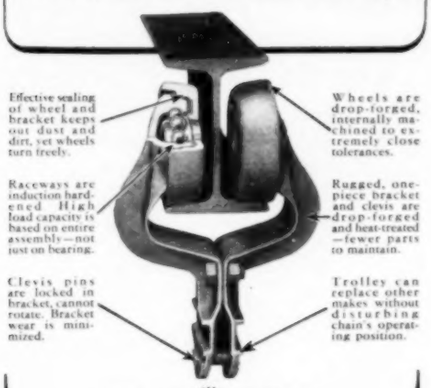
Placed between aluminum sheets and structural steel members, they insulate against galvanic corrosion. The strips can be cut, punched or drilled with ordinary tools. Supplied also for calking along a single corrugation or at required diagonals for roof hip or gable sealing.

For full information and diagrams of typical corrugated construction assemblies, write for Bulletin 501 — TODAY!

FABRICATED PRODUCTS COMPANY
WEST NEWTON, PA.

BREVITY—Identify by IEN - 6968 if you write the maker

Your conveyor dollars go farther with LINK-BELT trolleys



LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8.

Write for Folder 2241-B.

BREVITY—Identify by IEN - 6969 if you write the maker

you get **SPARKLE plus** proven product protection with packages of **ALCOA** ALUMINUM FOIL

No salt shaker stickiness for users of Du Pont Cooling System Cleanser. Alcoa Aluminum Foil, laminated to cardboard, bars moisture-vapor absorption—keeps these efficient auto radiator granules free flowing, prevents caking in the carton.

Beyond protection, this sparkling aluminum wrapper* spotlights the package on dealer's shelves—adds lustre to a name long famous for adherence to highest product standards.

Is Alcoa Foil available for packaging *your* product? That depends on current government restrictions. Best qualified to answer this question are leading packaging firms, pioneers in protective packaging . . . in Alcoa Foil. We will be glad to send you their names. Write: ALUMINUM COMPANY OF AMERICA, 1766G Gulf Bldg., Pittsburgh 19, Pennsylvania.

*Wrapper by Allegheny Label Co.

BREVITY—Identify by IEN - 6971 if you write the maker

TRUCK . . Hand hydraulic lift design rates ½ ton on 30 inch platform

Source: GINSBERG MACHINE CO.
224 Fifth Ave., 5th Floor, New York 1, N. Y.

The platform of this new Hydratruck is mounted on linkage that moves it up and down through an arc but holds it level in all intermediate positions. Lift movement is by operating a lever on a hydraulic pump or by closing the circuit to a motor which can be specified. This motor rates ¾ hp. on single-phase 110-volt 60-cycle ac. Provision is made in the linkage to tilt the platform down to a 6 deg. or up to a 3-deg. angle.

Overall length is 51 in. and width is 30 inches. Lift range is through 49 in. from 7 in. above the floor. Standard design calls for solid metal wheels at the front and solid rubber wheels at the rear. Truck weight is 450 pounds. Manufacture is in England with distribution by the company here.

BREVITY—Identify by IEN - 6972 if you write the maker

CLEANING . . Liquid material for use on floors, walls, washrooms

Source: MERCHANDISING & MFG. ASSOCIATES INC.
P. O. Box 411-A, Lancaster, Pa.

List price is $2.95 per gallon

Kleenzit is a new liquid supplied in concentrated form in gallon containers to mix with water, sprinkle on an area and allow to stand for a short period. During this time the solution acts as a solvent for grease, dirt, paint. It loosens surface and sub-surface dirt to permit rinsing away with water.

The liquid contains no lye or harsh ingredients. It can be applied with a mop or broom to speed the action. It is suited for concrete and terrazzo tile, but not for asphalt tile.

BREVITY—Identify by IEN - 6973 if you write the maker

HAND TOOLS . . Plier, socket, adjuster and wrenches for servicing use

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.

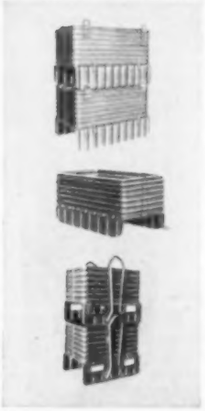
Three new automotive tools include a dual-purpose locking plier No. 250, a No. 52098 socket for the drain plug on the Dynaflow torque converter and a brake adjuster No. 2007 for Chevrolet brakes. Improvements also have been made on five tappet wrenches Nos. 3425 to 3440. Shanks are narrow. Heads are small and pear shaped and of correct thickness to fit a considerable number of engines. Length is 10 in. to reach beyond manifolds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6974 if you write the maker

FOR STEEL BOXES TO FIT ANY MATERIALS HANDLING JOB . . .

CALL IN YOUR POWELL REPRESENTATIVE



Powell makes a complete line of all-steel box and box platform units. Whatever the job there's a Powell box to handle it — and for those special jobs Powell's noted JOB-DESIGNED service will supply special designs at surprisingly low cost. Ask the Powell man in your area, or write direct.

NOTE: *Due to the present national situation, if you can supply the steel, or issue a D.O. number, faster delivery of equipment is assured.*

POWELL

POWELL PRESSED STEEL CO. • HUBBARD, OHIO
ORIGINATORS OF COLD FORMED ALL STEEL HANDLING EQUIPMENT (In Greater Youngstown) Dept. 571

BREVITY—Identify by IEN - 6975 if you write the maker

STANLEY HAMMERS

...each designed to do its job better

In the broad line of Stanley Hammers are types eminently fitted for a wide variety of work in industrial plants. Each of the types illustrated here is for a different kind of work.

For the packing and shipping room, and building maintenance work, the No. 51½ Stanley Nail Hammer. For machine shop and product service work the No. 310 Ball Pein Hammer and the No. 232 Machinist's Riveting Hammer. For assembly and light metal forming, the No. 594 Soft Face Hammer. Each is available in a variety of weights and sizes to meet all industrial needs. Stanley Tools, New Britain, Conn.

THE TOOL BOX OF THE WORLD

STANLEY

Reg. U.S. Pat. Off.

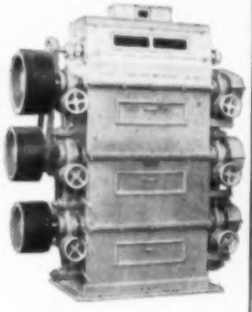
HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

BREVITY—Identify by IEN - 6976 if you write the maker

SPROUT WALDRON MUNCY, PENNSYLVANIA

ROLLER MILLS

GRIND TO FLOUR FINENESS GRANULATE OR FLAKE



160

For grinding materials ranging from hard flinty slate to soft spongy cork, Sprout-Waldron Roller Mills have an enviable record of efficiency and economy in the process industries. Varying roll corrugations and differentials provide great flexibility in size, fineness and consistency. Write today for literature. Sprout-Waldron & Co., Inc., 5 Waldron Street, Muncy, Penna.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

BREVITY—Identify by IEN - 6977 if you write the maker

WHEN YOU NEED STEEL CALL RYERSON

Contact Ryerson for prompt shipment of dependable steel products. Because of great demand, all sizes are not always in stock; but you will find that we can usually take care of your requirements.

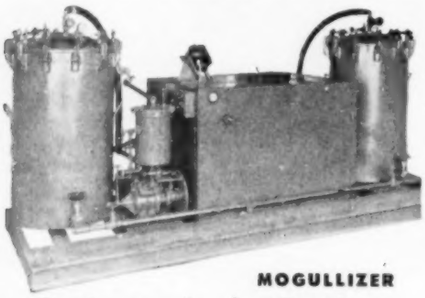
PRINCIPAL PRODUCTS

Bars • Structurals • Plates • Sheets • Tubing • Allegheny Stainless • Alloy Steel • Safety Floor Plate • Babbitt • Solder Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC.

Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

BREVITY—Identify by IEN - 6978 if you write the maker



MOGULLIZER

Eliminates Leaky Castings

If your contract calls for impregnation, or if your production castings leak or weep and will not hold pressure, investigate our Mogullizing system—a high vacuum and pressure method of sealing castings. Models to meet your requirements.

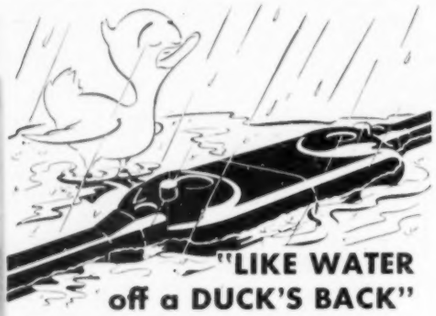
Any standard impregnating material can be used but for top efficiency we recommend our Mogul Cast Seal.

Prompt deliveries.

Write today for full details on the Mogullizing system.

METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—Identify by IEN - 6979 if you write the maker



"LIKE WATER off a DUCK'S BACK"

Moisture cannot penetrate the resilient rubber body of a JOY electrical connector . . . even mating pins and sockets are fully protected (when connected). Sealing action between plugs and sockets is automatically completed each time connections are made—through patented face construction of connectors.

Molded as integral Neoprene rubber units and permanently vulcanized to their cables—JOY plugs and inserts can't crack or shatter and are highly resistant to the deteriorating effects of grime, fluids, humidity and temperature changes. All the outstanding advantages of wear-resistant rubber are engineered to peak performance in JOY connectors. Write for descriptive bulletins.

749.2

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

1851-1951—100 Years of Engineering Leadership

BREVITY—Identify by IEN - 6980 if you write the maker

MINNEAPOLIS MOLINE MM MODERN MACHINERY

INDUSTRIAL WHEELERS

for material handling or equipment

27 hp and 51 hp max. developed engine hp Models

Manufacturing and processing plants use Minneapolis-Moline heavy duty wheel tractors on unusual yard handling operations. A wide selection of attached tools is available for moving bulk or palletized material with small investment.

Manufacturers also use MM wheelers to mount graders, stevedore cranes, revolving cranes, and sweepers. Specifications available on request or ask for recommendation for your product. Engineering service available.

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-20

We suggest that you pass the word to your sales department of importance at this time to check your company's product listings in Thomas' Register of Manufacturers. Now is the time to do it just prior to starting assembly and publication of the new volumes for 1952.

Never in our history has it been so vital, in view of current shortages and Government restrictions, that every manufacturer in these United States be correctly and adequately listed so those who do need products of every description can look in the Register pages and find all available sources.

There is no charge for these listings in the Register's aim to include all makers of all products made in the U. S. A.

SCRAP IS NEEDED AGAIN — IEN S-21

We quote a news release dated August 1942 because history is repeating and the need for steel scrap is again immediate and urgent. The release was by Lukens Steel Company, Coatsville, Pa. You can duplicate it for every town and city. Listen—

"Acutely conscious of the importance of salvage collection, we planned, launched and led a Coatsville salvage-collection drive that yielded scrap to a total of 616,065 pounds. This represents a per capita score for the town of 46.68 pounds or an average of 226.92 pounds for each home. We published a 20-page brochure, 'Salvage' explaining, step by step, how we enlisted the cooperation of Coatsville's public officials, daily newspaper, the Red Cross, the Chamber of Commerce, the Council of Defense, and finally the individual men, women and children."

The company offered to mail copies of the brochure to others ready to start action in their communities. Probably that brochure is out of print by now. The need for scrap is up again, however, and your help is vital.

IEN ON MICROFILM — IEN S-22

For about $3.50 you can purchase the 12 issues of IEN for 1950 on Microfilm. The service is available on a yearly basis through University Microfilm, 311-15 N. First St., Ann Arbor, Michigan. Each page is printed on 35 mm. film.

U. S. SAVINGS BONDS — IEN S-23

Top Management:

YOUR BOOST

IS NEEDED MOST

BREVITY—Identify by IEN - 6981 if you write the maker

HOW MUCH ?

The correct answer every time with the General Radio Type 759-B Sound-Level Meter. Completely self-contained, portable, very simple to use . . . this meter accurately measures the exact volume of noise for

Surveying street noises ★ Operation of punch presses, milling machines, lathes, grinders, chain drives and ventilators in factories ★ Designing automobile engines, mufflers, bodies and horns ★ Determining effectiveness of soundproofing material in offices, factories, airplane cabins, railroad trains and broadcast studios ★ Operating office equipment such as addressing machines, adding and calculating machines, typewriters, air-conditioning units, electric fans ★ Silencing home appliances such as washing machines, sewing machines, vacuum cleaners, electric fans ★ Comparing the overall noise produced by mechanical and electrical machines of the same type but of competitive make.

These are only some of the thousands of uses of this valuable meter, as reported to us by users. The cost of the G-R Sound Level Meter is $350, complete and ready for immediate use.

Let us tell you more. Write for The NOISE PRIMER.

GENERAL RADIO Company
275 Massachusetts Ave., Cambridge 39, Mass.

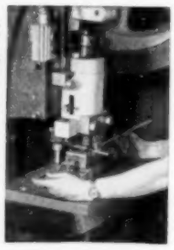
BREVITY—Identify by IEN - 6982 if you write the maker

Adjustable Automatic Stock

FEED STOP for DIES

Dahlstrom Light Duty

AUTOSTOP



No drill jig...
No slotting...
No milling...

$1.75

Tested and improved through the years, the Dahlstrom Autostop will save hours of your high priced labor. Adjustable to work with blanking, progressive and compound dies. Mounts on stripper plate in 15 minutes. Handles sheet steel up to 1/16" x 6" or equivalent weight.

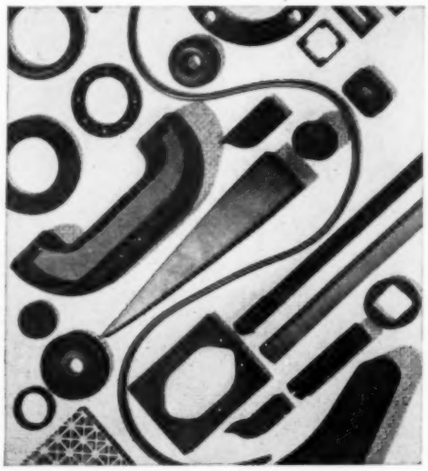
TO INSTALL: Just drill one 7/36-inch hole, then drill and tap four mounting holes per directions. That's all there is to it!

Trial order $1.75 each; lots of 12 $1.50 each. State whether for use on compound or progressive dies. *Write for free pamphlet.*

By the makers of the DAHLSTROM TAP GUIDE

Dahlstrom MANUFACTURING COMPANY
2516 W. LARPENTEUR AVE. • ST. PAUL 8, MINN.

BREVITY—Identify by IEN - 6983 if you write the maker



HOW INDUSTRY IS USING RUBATEX CLOSED CELL RUBBER

Product engineers in industries have found RUBATEX Closed Cell Rubber the ideal material for uses such as these:

Gaskets	Fatigue mats
Automobile arm rests	Expansion joint filler
Anti-squeak pads	Arctic equipment
Dust barriers	Shoe innersoles
Low temperature insulation	Typewriter cushions
Packing cushion for fragile goods	Rug underpad
	Seat cushions
Flotation devices	Bath and kitchen mats
Athletic shock padding	Crib and play-pen mats
Gymnasium mats	Weather stripping
Kneeling pads	Vibration damping
Crash pads	

RUBATEX is light in weight, buoyant, and has good compressive strength. It cannot absorb moisture even at cut edges. RUBATEX is rot and vermin proof and sanitary. There is a big economy factor to RUBATEX. Most gasket requirements can be cut from sheet stock without need for the expense of a molded-on skin. RUBATEX is available in natural and synthetic stocks and in soft, medium and firm forms. For more information, write for Catalog, RBS-12-49, Great American Industries, Inc., RUBATEX DIVISION, BEDFORD, VIRGINIA.

Photo-micrograph of RUBATEX closed cellular rubber shows the tiny individually sealed balloon-like chambers which retain inert nitrogen under pressure.

RUBATEX
CLOSED CELL RUBBER

ZERO MOISTURE ABSORPTION
RESILIENT AT LOW TEMPERATURES
EXCELLENT SHOCK ABSORPTION

BREVITY—Identify by IEN - 6985 if you write the maker

ANOTHER BANCROFT-HICKEY ORIGINAL . . . recently created for a leading producer of industrial bearings, may be your answer too — if your production is crippled by wheels that won't hold their form.

This superior wheel of organic bond is engineered for long service — yet breaks away before excessive glazing or loading. It *holds* its form, thus minimizing the redressing that inflates diamond costs and robs operator efficiency.

Whatever your grinding operation, use the wheel correct in grade and grain for the job. Use a Bancroft-Hickey original and get performance as individual as a thumb-print.

BANCROFT-Hickey
MANUFACTURING COMPANY
BRISTOL, PA.

BREVITY—Identify by IEN - 6986 if you write the maker

IN ONE STAGE IN ONE HOUSING

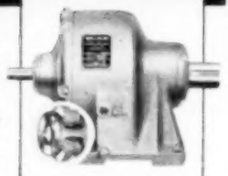
Reduction ratios of 1:1 to 50,000:1

Here's a design that is unique among speed reducers . . . *the Winsmith Patented Differential Gear.* And it's unique in many respects — all of them of major importance to machinery builder and user alike.

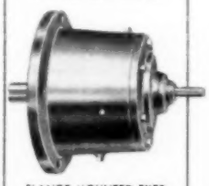
In a single stage, in one housing (which may be the horizontal, vertical or flange-mounted type), reduction ratios of 1:1 up to 50,000:1 are achieved smoothly and silently . . . *without additional parts!*

The heart of the Winsmith system is a 6-gear planetary element, free within the reducer housing to float into the most equalized load-distributing position, thereby assuring even wear, automatic compensation and alignment, smooth and quiet operation.

To be fully familiar with Winsmith Patented Differential Speed Reducers, as well as the features of the worm and helical lines, write, requesting "Save Through Standardization" Folder. It sums it all up very briefly.



HORIZONTAL TYPE
1/10 to 82 hp at 1800 rpm



FLANGE-MOUNTED TYPE
1/10 to 50 hp at 1800 rpm

VERTICAL TYPE
1/10 to 82 hp at 1800 rpm

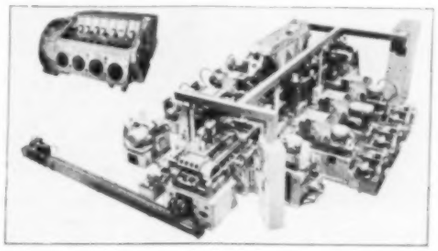
WINFIELD H. SMITH CORPORATION
10 DAVIS ST.
Springville (Erie County) N. Y.

WINSMITH SPEED REDUCERS
50th ANNIVERSARY
MEMBER AMA
PATENTED
DIFFERENTIAL GEAR TYPE

BREVITY—Identify by IEN - 6988 if you write the maker

DRILLING . . Multi-station machine for 83 holes in a V-type engine block

Source: BARNES DRILL CO.
856 Chestnut St., Rockford, Ill.



Seven stations with the required transfer equipment to handle and secure 8-cylinder V-type automotive engine blocks are employed in this new machine. The assembly drills 83 holes in 52 blocks per hour based on 100 per cent efficiency.

There are 14 hydraulic and air-traverse units equipped with auxiliary heads, a conveyor, automatic lubricating equipment, a chip conveyor and a seven-station transfer mechanism with fixtures to hold the work at the various stations. Control centers at a panel at the operator's position at each end of the machine. The design permits continuing production without any one of the individual drilling units. It also is possible to operate the machine with the work delivered at any one of the stations for a single operation in order to minimize production loss from breakdown, tool change and servicing.

BREVITY—Identify by IEN - 6989 if you write the maker

DRIVE . . Magnetic clutch assembly for antenna rotation by remote control

Source: DUNCAN & BAYLEY INC.
783-87 Hertel Ave., Buffalo 7, N. Y.

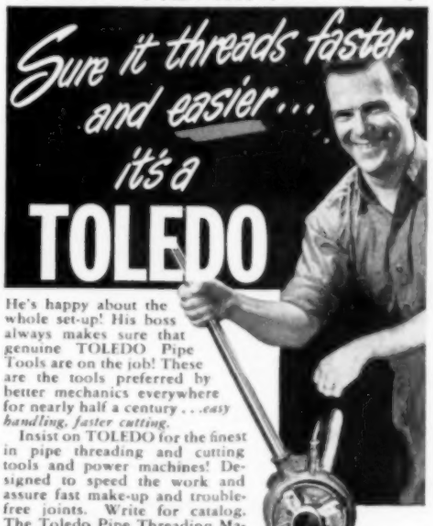
Type PM-2TG designates new proportional torque controller for geared connection to a radar antenna to rotate it in one direction or the other. The assembly encloses two of the company's Type-PM hysteresis magnetic clutches, previously described IEN-8124-50. The clutches make it possible to operate the motor continuously.

Rotating portions of the clutches and motor serve to store energy to assist in movement in either direction when the clutch circuit is energized. Input to the control circuit calls for 15 watts for 80 in. ounces of torque at 1,800 rpm. A reversing motor of comparable rating would require about 100 watts.

Assembly without the motor measures 6¼ in. in overall length between the shaft ends. Width is 2⅞ in. and height is 5⅜ inches. Response time is 50 milliseconds. Maximum torque is 2 to 10 in. lb. on standard output gearing from 1 to 5 to 1. Ratio is subject to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6990 if you write the maker



He's happy about the whole set-up! His boss always makes sure that genuine TOLEDO Pipe Tools are on the job! These are the tools preferred by better mechanics everywhere for nearly half a century . . *easy handling, faster cutting.*

Insist on TOLEDO for the finest in pipe threading and cutting tools and power machines! Designed to speed the work and assure fast make-up and trouble-free joints. Write for catalog. The Toledo Pipe Threading Machine Co., Toledo, Ohio.

Complete Toledo line includes Hand Tools, all pipe sizes, ½" to 12" and ⅛" to 1" bolts. Power pipe machines, up to 2" and 4" capacity.

TOLEDO
FOR PRECISION PIPE TOOLS

BREVITY—Identify by IEN - 6991 if you write the maker

FOR YOUR PANEL DIALCO
A NOVEL and UNIQUE CIRCUIT INDICATOR

DESIGNED FOR NE-51 NEON LAMP
For 110 or 220 volt circuits
The required resistor is an integral part of this assembly —"built-in."
RUGGED DEPENDABLE LOW IN COST

PATENTED: No. 2,421,321, Cat. No. 521308-997

WILL *YOU* TRY A SAMPLE?

Write on your company letterhead. We will act at once. No charge, of course.

SEND FOR THE 192 PAGE HANDBOOK OF PILOT LIGHTS
Among our thousands of Pilot Light Assemblies there is one which will fit your special conditions. Many are especially made and approved for military use. We pride ourselves on prompt deliveries—any quantity.

ASK FOR OUR APPLICATION ENGINEERING SERVICE

Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y. SPRING 7-1300

BREVITY—Identify by IEN - 6992 if you write the maker

the No. 1 money saver for your plant

DEWALT

gives you more work for your money in:
- ***PLANT MAINTENANCE***
- ***PATTERN SHOPS***
- ***CRATING AND BOXING***

This versatile, all-purpose DeWalt is never idle! In *your* plant, it can take care of all your woodworking needs—quickly, accurately and safely. It is *many* machines in one! Simply by changing the cutting tool, you have another machine! Write for catalog. DeWalt, Inc., Dept. IE-7, Fountain Ave., Lancaster, Penna.

DEWALT A subsidiary of American Machine and Foundry Co.

BREVITY—Identify by IEN - 6993 if you write the maker

Watch my speed!

TIME TABLE IN SECONDS

Pipe Size	Ream Pipe	Thread Pipe	Cut-off Pipe	Total Seconds	Pieces per 10 min. hr.
½"	6.0	15.0	17.5	38.5	78
1"	6.0	19.8	21.2	47.0	64
2"	7.8	25.2	26.6	59.6	50

It's EASY with the New OSTER "TOM THUMB" Portable Threader

The No. 582 is built for YOU—if you want the most advanced portable power pipe threader on the market. No other make has the EXCLUSIVE "Auto-Grip" front chuck that grips ANY kind of pipe automatically for chucking, reaming, threading, and cutting-off. Smooth, frictionless power assured because spindle, shafts, and worm are all mounted in BALL BEARINGS. Double "V" belt drive from motor to spindle assures QUIET operation . . . prevents mechanical shock and sudden overload. These and plenty more features combine to make the new No. 582 "TOM THUMB" the finest, most profitable portable pipe machine you can buy. BULLETIN 582 tells the full story. Write for free copy—Now!

OSTER THE OSTER MFG. COMPANY
2053 E. 61st St. • Cleveland 3, Ohio, U.S.A.

First with the Best in Threading Machines Since 1893

BREVITY—Identify by IEN - 6994 if you write the maker

Pump Materials DIRECT From Original Containers!

Alemite Versatal Equipment allows fast, easy handling of liquids and semi-solids . . . from paint to putty.

- Air-operated Versatal Pumps dispense materials directly from original bulk drums!
- Hydraulic pressures deliver materials through as much as 1000 feet of hose or pipe!

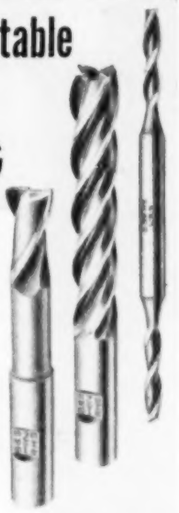
FREE—a book of ideas on how Alemite Versatal Equipment can help solve your material handling problems. Address your request to Alemite, Dept. K 71, 1850 Diversey Parkway, Chicago 14, Ill.

ALEMITE Versatal

Another Product of Stewart-Warner

BREVITY—Identify by IEN - 6995 if you write the maker

For more profitable END MILLING



. . . choose the right end mill from the extensive Brown & Sharpe line. By matching the end mill to your needs, you'll get faster, more efficient, and more profitable cutting.

Brown & Sharpe offers 20 styles of end mills with a complete range of sizes in each. Send for the catalog containing specifications and prices. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

We urge buying through the Distributor

BROWN & SHARPE

BREVITY—Identify by IEN - 6996 if you write the maker

FYRITE DUPLEX KIT

ACCURATE! FAST!

NEW! DIFFERENT!

For OXYGEN and CO_2 Analysis

This newly-developed FYRITE Test Set comprises two separate indicators—one for direct CO_2 analysis, the other for direct Oxygen analysis. Both instruments employ the fundamental principle of chemical absorption. The absorbing fluid used in each instrument is selective in its affinity for CO_2 or Oxygen, respectively, and is not affected by the presence of other gases. The instruments are portable; require no setting-up, have no valves or leveling bottle to manipulate. They are packed in a compact carrying case together with a complete rubber aspirating assembly for connecting either instrument to the desired sampling point.

For complete particulars write for Leaflet 700-342

BACHARACH Industrial Instrument Company
7000 Bennett Street • Pittsburgh 8, Pa.

BREVITY—Identify by IEN - 6997 if you write the maker

THREADING . . Universal grinder for internal and external threads

Source: COSA CORP.
626 Chrysler Bldg., New York 17, N. Y.

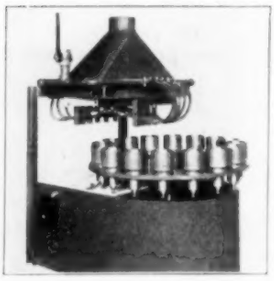
New Type NRK machine manufactured by Reishauer Tool Works, Ltd. of Zurich, Switzerland, is now available in the United States for thread and worm grinding in production lines and in tool rooms. The machine can be set up in longitudinal feed for production by single-thread grinding wheels. It also applies on in-feed or plunge cutting with multiple-thread wheels.

Capacity is for work to 28 in. between centers on threads to a maximum length of 17½ inches. External thread diameter ranges from .120 to 8 in. in external operation and to 5 in. in internal thread diameter. Wheel speeds are 1,550 or 1,900 rpm. Work spindle speed is from 1.6 to 80 rpm. Right or left-hand, single or multiple threads can be ground to any profile.

BREVITY—Identify by IEN - 6998 if you write the maker

BRAZING . . Gas fired machine to anneal cylindrical work or to braze

Source: GAS APPLIANCE SERVICE INC.
1209-13 Webster Ave., Chicago 14, Ill.



Two rows of the company's Zig-Zag gas burners with a Furkert gas-air mixer are assembled under a hood at the top of this new machine. A motor-driven rotating table with spindle-mounted workholding cups moves beneath the burner. As the cups come into the heating zone, sprockets at the lower ends of their spindles engage a stationary chain to rotate the work as it advances.

Production rate is 600 pieces per hr. with a 60-in. table. Application is primarily to braze plugs or adaptors to the ends of shells and to anneal the mouths of shell cartridges.

BREVITY—Identify by IEN - 6999 if you write the maker

ENGINEERS . . Society for women marks its first anniversary, invites members

Society of Women Engineers
P. O. Box 30-A, Ansonia Station, New York 23, N. Y.

Local groups of the Society have been organized in the metropolitan areas of Philadelphia, New York, Washington and Boston. If you are a woman engineer in these or other areas, you may be interested in a statement of purpose and membership form. Write Mrs. Evelyn Jetter at address above.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7000 if you write the maker

SHAKEPROOF thread-cutting screws

ACTUALLY CUT THEIR OWN THREADS IN DIE-CAST MATERIALS!

Because their exclusive off-center, wide slot presents an acute serrated cutting edge to the work, Shakeproof Type 23 Screws are ideally suited for use in die-castings and in metals which tend to powder when driven. With exceptional free-cutting action, they produce a standard machine screw thread and completely eliminate separate tapping operations.

send for FREE sample kit No. 10

Try these screws! Prove to yourself their time and money saving advantages. Write today!

SHAKEPROOF inc.
DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Ave., Chicago 39, Ill.

BREVITY—Identify by IEN - 7001 if you write the maker

BURNDY • BURNDY

BURNDY • BURNDY • BURNDY • BURNDY

quick like a

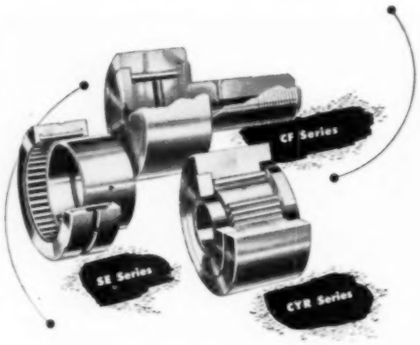
bunny

QIKLUG CONNECTORS

Rugged, compact terminal for indoor and outdoor. Installed with ordinary wrench. No separate parts. Height constant regardless of cable size connected. Unlimited variations offered — any combination of clamping elements, any tongue shape or drilling. See your Burndy Distributor.

BURNDY ENGINEERING CO., INC.
NEW YORK 54, NEW YORK

BREVITY—Identify by IEN - 7002 if you write the maker



MULTIROL precision is PERMANENT

The fine precision originally built into every McGill Multirol Bearing actually lasts longer. It can easily be considered permanent by comparison because Multirol Bearings are free from early internal wear that can destroy the accuracy of friction type bearings.

The rolling action of small diameter rollers maintaining a constantly lubricated roller line contact with raceways makes the difference — keeps the Multirol Bearing equipped machinery operating at top efficiency without costly maintenance for frequent adjustments and bearing replacement.

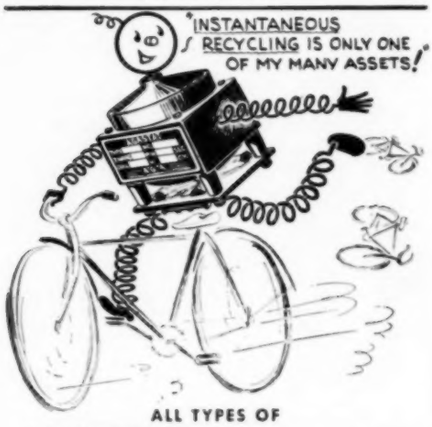
For the increased production demands just ahead you will need the performance extras of McGill Multirol Bearings. Adopt the SE Series for precision handling of increased loads when radial space is limited. Either the CF Series with stud or the CYR Series for shaft mounting will withstand heavy shock load in any kind of cam action application.

Write today for descriptive Multirol® Bearing Bulletins.

McGILL precision bearings

McGILL MANUFACTURING CO., INC., BEARING DIVISION
100 N. LAFAYETTE ST., VALPARAISO, INDIANA, U. S. A.

BREVITY—Identify by IEN - 7004 if you write the maker



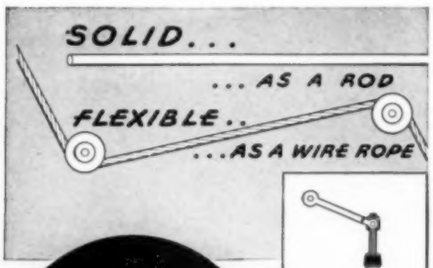
ALL TYPES OF

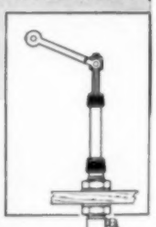
AGASTAT TIME DELAY RELAYS

are solenoid actuated – pneumatically timed. For AC and DC service. It will pay you to take time out to investigate Agastat Time Delay Relays. Information and literature on request.

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

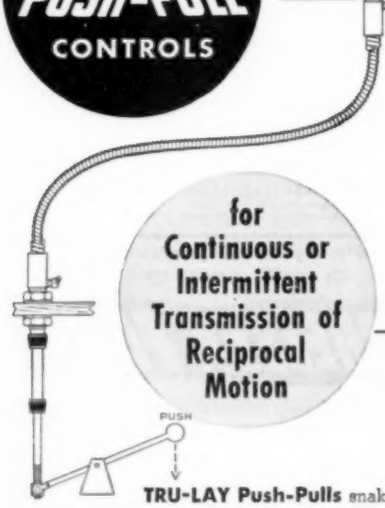
BREVITY—Identify by IEN - 7005 if you write the maker





TRU-LAY PUSH-PULL CONTROLS

for Continuous or Intermittent Transmission of Reciprocal Motion



TRU-LAY Push-Pulls snake around obstructions. Provide positive remote action. Operate while flexing, as on shakers. Few or many bends. Short or long distances. Ruggedly constructed for years of service. Capacities up to 1000 pounds input.

Write our Detroit office today for **DH-287**

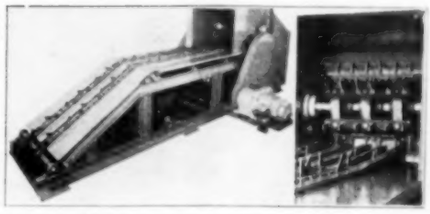
601 Stephenson Bldg., Detroit 2
ACCO 2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
In Business for Your Safety

BREVITY—Identify by IEN - 7007 if you write the maker

HANDLING . . Bale breaking machine separates material packed in bales

Source: TAYLOR STILES & CO.
44 Bridge St., Riegelsville, N. J.



Throat width is 36 or 72 in. in two sizes of this new bale-breaking machine. Bales are brought in on a feed conveyor which pushes them against a revolving head. The material in the bale is torn apart and opened up by projecting teeth on the 24 or 42-in. rotating motor-driven head.

The machine will separate materials in bales too hard for an axe to cut into them. It will tear the material apart ready for processing. It will open bales of straw at the rate of ½ ton per minute. It will handle bales of excelsior, tobacco, leather scrap, cotton linters.

BREVITY—Identify by IEN - 7008 if you write the maker

STRAPPING . . Reinforced paper tape straps products for handling, shipping

Source: TECHNICAL TAPE CORP.
Harlem River & 177th St., New York 53, N. Y.

Packaged in case lots

Tensile strength is 190 lb. per in. of width for the company's new No. 1000 Brenk-Pruf reinforced-paper strapping. It is made with a paper backing and longitudinal glass fibers. It employs a Geon polyvinyl material for resistance to aging and attack by chemicals, acids and greases. It presents a glossy surface on the outside and self-adhering surface on the inside. Width ranges from ½ to 2 inches. The material is supplied in 60-yd. rolls in standard arrangement.

BREVITY—Identify by IEN - 7009 if you write the maker

WINDING . . Tension control stand takes wire loaded spools to 8 inches

Source: GEO. STEVENS MFG. CO.
6020-24 N. Rogers Ave., Chicago 30, Ill.

Model T-8 is a spring adjusted brake-equipped stand on which to mount a spool loaded with No. 14 to No. 28 wire for feed to a winding machine. The wire leads over a tension-control idler that governs action of the brake to maintain tension as predetermined by a spring that can be tightened or loosened. The stand operates horizontal or vertical.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7010 if you write the maker

CHAMPION
Precision Expanding Mandrel

Entirely new in principle, this positive drive, quick change work mandrel cuts handling time . . . guarantees concentricity . . . eliminates arbor pressing and collecting.

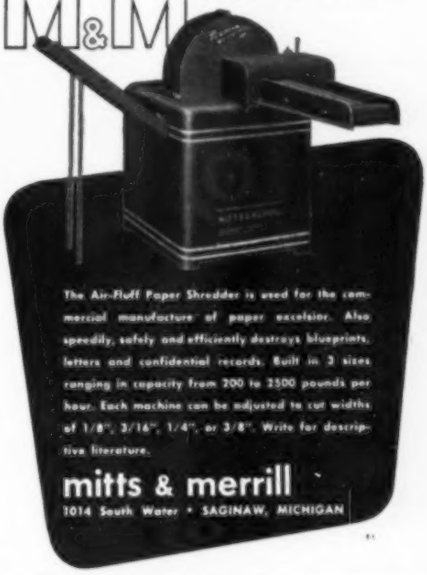
Lower cost production is assured with faster work, fewer rejects, less tool cost. Arbor is built for heavy loads. Sleeve closes at .003" under and opens to .007" over nominal size. Positive stop prevents overstrain. Holds tolerances of less than .0002" run out.

Standard sizes from 1/2" through 3" diameter, graduated by 1/16", fit your machine. Special sizes if required. More details on request. *Write Dept. IEN*

The WESTERN Tool & Mfg. Co., Springfield, Ohio

BREVITY—Identify by IEN - 7011 if you write the maker

M&M air fluff paper shredder



The Air-Fluff Paper Shredder is used for the commercial manufacture of paper excelsior. Also speedily, safely and efficiently destroys blueprints, letters and confidential records. Built in 3 sizes ranging in capacity from 200 to 2500 pounds per hour. Each machine can be adjusted to cut widths of 1/8", 3/16", 1/4", or 3/8". Write for descriptive literature.

mitts & merrill
1014 South Water • SAGINAW, MICHIGAN

BREVITY—Identify by IEN - 7012 if you write the maker

PROBLEM:
How to Get "Aluminum-to-Aluminum" Connections in the Termination of Aluminum Conductors

GENERAL PLATE:
Provided the Solution with the Composite Metal **ALCUPLATE***

Aircraft manufacturers and power companies were troubled with the electrolytic action which took place when aluminum main line cables were joined to copper branch lines. To overcome this problem it was necessary to have aluminum-to-aluminum or copper-to-copper connections.

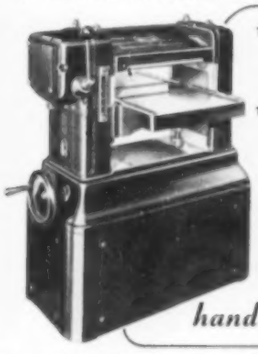
General Plate engineers solved the problem with *Alcuplate* (aluminum clad to copper) which gives like metal connections, thus overcoming the corrosion objections. Alcuplate is widely used in the electrical field for clips, shims, bushings, terminals, etc. Enclosures for sealed devices can be spun or drawn from *Alcuplate* and the copper surface makes soft soldering easy. *Alcuplate* is available in sheet, strip or seamless tubing. Write for information.

*Reg. U. S. Pat. Off.

Have You a Composite Metal Problem? General Plate can solve it for you

GENERAL PLATE
Division of Metals & Controls Corporation
100 FOREST STREET, ATTLEBORO, MASS.

BREVITY—Identify by IEN - 7013 if you write the maker



★ short 6" stock unbutted
★ oversize stock up to 13"x5"

DELTA 13" PLANER
handles 'em all!

- **ACCURATE** — do finish planing to close tolerances
- **SAFE** — gears, pulleys, belts all enclosed — motor inside
- **EASY BLADE-SETTING** — simple, accurate measuring device
- **EASY TO MAINTAIN** — cutterhead knives quickly sharpened
- **BUILT TO LAST** — true Delta quality in every detail

Get all the facts—send for catalog

There's a Delta Power Tool for Your Job - Wood or Metal Working
53 MACHINES—276 VARIETIES—MORE THAN 1300 ACCESSORIES
For Delta dealers, see your Classified Phone Directory under "Tools"

DELTA MILWAUKEE
DELTA POWER TOOL DIVISION
Rockwell MANUFACTURING COMPANY
615G E. VIENNA AVENUE, MILWAUKEE 1, WISCONSIN

BREVITY—Identify by IEN - 7014 if you write the maker

Dollar and Cents Angle

on Fafnir Sealed Ball Bearings

Figure it out yourself . . . you may be able to cut manufacturing costs by using one of the several types of Fafnir Sealed Ball Bearings.

These bearings simplify assemblies, cut out machinery operations and eliminate extra parts otherwise needed to provide and retain lubricants.

Find out . . . call in a Fafnir representative. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

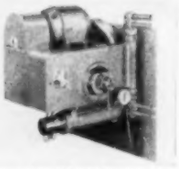
BREVITY—Identify by IEN - 7015 if you write the maker

Fire low-cost HEAVY OILS with COMPLETE dependability

IRON FIREMAN

Rotary OIL BURNER

makes steady, uniform flame with No. 6 oil or lighter



Fires heat-rich Nos. 5 and 6 oils (or lighter) with a steady, uniform flame at varying oil temperatures. Oil feed rate stays within ½ of 1% of setting, even when throttled down to 20% of capacity. The secret? It's Iron Fireman's Oil Volumeter which meters the oil by *volume*, rather than by tricky ports and valves. America's most advanced industrial oil burner.

Iron Fireman Commercial Oil Burner for Smaller Industrial Applications

An outstanding, highly efficient oil burner for smaller commercial and industrial use. Fires No. 2 oil or lighter; capacity 5 to 20 gals. per hour. Precise control of fuel and air gives superior performance and economy.

Write for illustrated folders TODAY

IRON FIREMAN

3171 WEST 106TH STREET CLEVELAND 11, OHIO

BREVITY—Identify by IEN - 7016 if you write the maker

BRAKE DIES

- UP TO 14 FEET LONG
- MADE FROM CHISEL STEEL BILLETS—FORGED TO SIZE AND THEN MACHINED.
- EVERY SET OF BRAKE DIES IS DEVELOPED FROM A PRELIMINARY SMALL "TRY-OUT" SECTION—TO GET THE RIGHT SHAPE ON YOUR MATERIAL, THEN
- WE MAKE YOUR SET OF PERFECT BENDING DIES.
- BY THE MAKERS OF THE FAMOUS SEMCO NIBBLER PRESS.

Write for Latest Literature, Ask for Estimates.

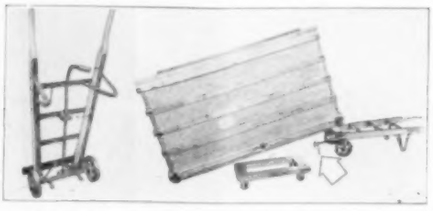
SEMCO SERVICE MACHINE COMPANY INCORPORATED

200 MILLER STREET ELIZABETH, N. J.

BREVITY—Identify by IEN - 7017 if you write the maker

TRUCK . . Two-wheel hand design equipped with load holding attachment

Source: FAIRBANKS CO.
395 Lafayette St., New York 3, N. Y.



Saf-T-Lifter trade names new sliding bar and foot attachment that applies at the back of the company's No. 9272-2 and 9272-3 two-wheel hand truck. The foot end pushes forward to rest on the floor and provide safe support for a bulky load that has been pried up, as shown in the illustration, to position a dolly or to apply a sling. The unit is retracted to return truck to upright position and lower the load.

BREVITY—Identify by IEN - 7018 if you write the maker

SWITCH . . Pendant station with individual pushbuttons in multiple

Source: ALLEN-BRADLEY CO.
1312 S. 2nd St., Milwaukee 4, Wis.

Bulletin 800-T is a new pendant pushbutton station for installation above a machine. It is oil-tight design and is available in a range of assemblies from two-button and a "stop" control to nine buttons and the stop. This latter unit is a wobble stick design on the bottom of the housing. It can be replaced to specification with a mushroom-type head. Special stations with any combination of buttons, selector switches, jogging units, key-operating units and pilot lights can be specified as required.

BREVITY—Identify by IEN - 7019 if you write the maker

AIR CONDITIONING . . Revised information in 1951 edition of the ASHVE Guide, a 1,480-page book

American Society of Heating & Ventilating Engineers
51 Madison Ave., New York 10, N. Y.

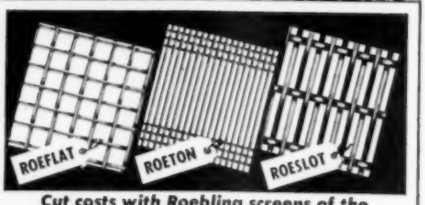
New 29th Edition of the "Heating, Ventilating and Air Conditioning Guide" includes additional technical data and revisions in many of its chapters. It is made up of three principal sections, one on data for design and specification, a second on manufacturers' catalogs, and a third comprising an index and classified directory. List price is $7.50.

Seven sections group the 50 chapters into headings of fundamentals, human reactions, heating and cooling loads, combustion and consumption of fuels, systems and equipment, special systems, instruments and codes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7020 if you write the maker

AGGREGATE SCREENS



Cut costs with Roebling screens of the right wire . . . right construction

FOR INCREASED service life, Roebling manufactures aggregate screens in Roeflat construction for maximum wearing surface where abrasion is high . . . in Roeton construction to afford increased screening capacity . . . in Roeslot construction for highest screening capacity. Each of these screens is made of either Abraso (high carbon steel), **Roetemp** (oil tempered steel), or of stainless steel, monel or other alloys.

Send today for Aggregate Screen Catalog W-903 and information that will help you choose the right wire and construction for top service.

WOVEN WIRE FABRICS DIVISION
John A. Roebling's Sons Company, Roebling, New Jersey

ROEBLING

BREVITY—Identify by IEN - 7021 if you write the maker

Recently Developed

3-WAY FULL AREA, PACKLESS SOLENOID VALVES

PIPE SIZES: 1, 1¼, 1½ and 2 inches

We recommend this valve for controlling equipment where pressure must be alternately applied and exhausted as, for example, with diaphragm motor valves, air or hydraulic cylinders, etc. Classed as Bulletin 8331 ASCO Valves, here are a few specifications: maximum pressure 125 to 250 pounds; minimum pressure 10 to 20 pounds. Suitable for handling air, water, gas, oil and other non-corrosive gases or liquids up to 180°F.

Since the automatic control of any alternating application and release of pressure is so important for efficient operation, we suggest that you bring your problems to the attention of our engineers whose experience goes back nearly 40 years.

If you have recurrent and varying needs for automatic control valves, you should have our General Valve Catalog No. 23.

ASCO Solenoid VALVES

When in need of Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us.

Automatic Switch Co.
383 LAKESIDE AVENUE • ORANGE, NEW JERSEY

BREVITY—Identify by IEN - 7022 if you write the maker

the Revolving Joint with Shock Absorbers

ROTARY UNIONS
TRADE NAME

Ball bearing construction, anti-wobble shafts, and a tight rust-proof and dirt-proof Monel mechanical seal make ROTARY UNIONS outperform and outlast other revolving connections.

In addition, ROTARY UNIONS *float* on flexible hose connections which absorb misalignment and shock, adding months of trouble-free service. Positive sealing at steam pressures up to 200 PSI. ROTARY UNIONS are the most efficient connection for heating and cooling purposes on all revolving connections. Write for Catalog 600-N for complete information.

"WHEN Good Connections COUNT"

PERFECTING SERVICE COMPANY
317 Atondo Ave. Charlotte, N. C.
Offices in Jersey City — Chicago — Philadelphia — Cleveland — Pawtucket, R. I.

BREVITY—Identify by IEN - 7023 if you write the maker

25 TYPES . . . OVER 150 SIZES!

CHELSEA FANS

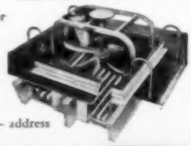
—for every industrial and commercial need!

There's a CHELSEA fan for every requirement — each type certified for performance in accordance with the Standard Code of the Propeller Fan Manufacturers Association.

Industrial Fan Type IND— For large general area ventilation. Moves large volumes of air under pressure. Sizes from 24" to 60".

All-Purpose Fan Type BS— For removing smoke, steam, heat, fumes, etc. Heavy duty direct drive fan for continuous operation. One piece panel and orifice, lightweight, simple to install. Sizes from 10" to 30".

Comfort Cooler EV— Designed for low headroom installations, this Chelsea package unit is complete. Quiet operation. Sizes 24" to 48".



Send for Your FREE KIT!

Contains all the information you need to make ventilating installations in factory, office, store or shop.

Write for yours today — address Department M.

CHELSEA FAN & BLOWER CO. INCORPORATED
PLAINFIELD NEW JERSEY

BREVITY—Identify by IEN - 7024 if you write the maker

"We use SpeedLIFT portable power booster for loading . . . stacking . . . unloading . . . and as a booster in long conveyor runs. With SpeedLIFT we handle loads up to 600 lbs. . . . stack 30 cartons per minute. We like the way it's built, too . . . rugged, with heavy channel steel frame, extra-large belt rollers, self-aligning belt and other fine features. For literature and prices, call your local SPEEDWAYS man, or write factory today."

ALSO—SPEEDWAYS gravity "wheel" conveyors; SpeedTUBE gravity roller conveyors; SpeedBELT constant speed assembly belts. Switches, junctions, stands—full line of SPEEDWAYS accessories.

FREE—Helpful bulletin "How to Order Correct Size Conveyor." Phone your local SPEEDWAYS man, or write us. No obligation.

SPEEDWAYS Conveyors, Inc.
1244 Niagara St., Buffalo 13, N. Y.
Also Mfd. in Canada; Union of So. Africa

BREVITY—Identify by IEN - 7025 if you write the maker

Get brighter plants, more reflected light on precision work, protect metal from heat and corrosion. Use the right aluminum paint. For maximum economy and good appearance, use Aluminum Metal and Masonry Paint for most interior jobs, Aluminum Enamel for heated surfaces, Aluminum House Paint for weather-exposed wood.

We do not make paint. To help you buy and apply the right aluminum paints we have prepared a detailed, illustrated book, "Painting with Aluminum," a complete guide to industrial painting.

Because rearmament needs come first, the supply of aluminum for paint is limited. Now it is more important than ever that you use the right aluminum paint for extra-long life and protection. Free book, "Painting with Aluminum," tells how. Write to ALUMINUM COMPANY OF AMERICA, 1786G Gulf Building, Pittsburgh 19, Pennsylvania.

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS. ALCOA ALBRON

BREVITY—Identify by IEN - 7027 if you write the maker

COOLING . . Fan equipped radiator for jacket water on a diesel engine

Source: YOUNG RADIATOR CO.
719 Marquette St., Racine, Wis.

New design of the company's diesel-engine radiator, previously described IEN-6537-50, employs vertical core sections with steel headers at the top and bottom, positions for auxiliary cooling coils for gas and lubricating oil and a belt-connected motor-driven fan, all assembled in a structural frame. Capacity is to 2,970,000 btu. per hr. under standard conditions for a Model 375 unit. Other sizes with equipment such as mechanically-controlled shutters are subject to specification. Detail information covering construction is contained in illustrated 4-page Catalog 1351.

BREVITY—Identify by IEN - 7028 if you write the maker

FABRIC . . Waterproof material, woven nylon fibers, plastic coated

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

39 in. width
100 yard rolls

Fiberthin is a new waterproof fabric weighing 5 oz. per sq. yd. and developing a tear strength of 15 to 22 lb. with tensile strength of 150 to 180 lb. per in. of width. The fabric is mildew and flame resistant and not subject to attack by oil, acids, and alkalis. It is being produced at present for airplane-wing covering, aerodynamic air seals, protective covers for boats and equipment. It is suited also for use in exposure suits, flying suits, tents, raincoats, tarpaulins.

BREVITY—Identify by IEN - 7029 if you write the maker

PROTECTING . . Safety cap for women workers, washable fabric

Source: GENERAL SCIENTIFIC EQUIPMENT CO.
2785 W. Huntingdon St., Philadelphia 32, Pa.

List price is about $60 per thousand for this new No. 32 hair-protecting cap for women workers. It is made of a fabric that will not deteriorate in contact with water or live steam. It can be sterilized in boiling water. An elastic around the rim holds it in place on the head.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7030 if you write the maker

Remove SCALE, PAINT, RUST Quickly . . . Easily

USE AURAND CLEANING TOOLS

For any hard metal or stone surface—iron—steel—brick—concrete, etc.

It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For further information, address Dept. 649

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

BREVITY—Identify by IEN - 7031 if you write the maker

Engineer records month's operating time of automatic screw machine.

ARE YOU GETTING MAXIMUM OUTPUT FROM YOUR MACHINES?

G-E TIME METERS available in conduit, panel, portable models

With production increased and new machinery at a premium, maximum output from present plant equipment is a must. You can check the utilization factor of your equipment quickly and easily with General Electric time meters.

G-E time meters reveal exactly how long your machines are in actual operation. They record operating time in hours, tenths of hours, or minutes . . . show idle time that otherwise might go undetected . . . afford data for more efficient machine scheduling and servicing.

For details, call your G-E representative, or write for Bulletin GEC-472, Section 603-120, General Electric, Schenectady 5, N.Y.

GENERAL ELECTRIC
603-120

BREVITY—Identify by IEN - 7032 if you write the maker

BREVITY—Identify by IEN - 7033 if you write the maker

Less Walking—More Footage

Cut down waste welding time—increase footage up to 50%.

Use Worthington-Ransome Welding Positioners to tilt or turn the work—without delay.

No more walking around and climbing over the work piece, no more propping and flopping it. It's always in position for continuous downhand welding.

Welding Positioners: 100 lb to 30 tons capacity. Also Turning Rolls: 3 to 150 tons capacity, stationary or self-propelled.

Write for additional information to Worthington Pump and Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, New Jersey.

WORTHINGTON

Y.J.A

BREVITY—Identify by IEN - 7034 if you write the maker

Backstand Method Saves Time!

Toledo Steel Tube Co. saves 2 hours per operator per day in finishing department

They point out these advantages of the backstand belt method over the set-up wheel method:

1 Time is not lost in making set-up wheels. Formerly the operators were given 2 hours a day for making their set-up wheels.

2 One backstand belt will outlast 4 to 5 set-up wheels for this application.

3 Belts maintain a flat surface for the grinding and polishing operation, whereas set-up wheels became rounded and needed dressing from time to time.

4 The uniform grit on the belts gives a better finish than did the rolled-on grit of the set-up wheels.

If you are grinding, polishing or finishing flat or contoured surfaces, cast pieces, stamped pieces or forged pieces, write today for our free booklet, "Facts About Backstand Belt Grinding and Polishing."

We recommend buying through your industrial distributor

ARMOUR *Coated Abrasives Division*

SHEETS • ROLLS • BELTS • DISCS

Armour and Company • North Benton Road • Alliance, Ohio

BREVITY—Identify by IEN - 7035 if you write the maker

Fast, Safe PACKING FOR MILITARY MATERIEL

Now available for efficient, cost-saving packing of shells, cartridges, fuses and other military material, are American pre-assembled interlocking partitions made to meet government specifications.

Wire for prices on your requirements. Volume production facilities.

American PARTITION CORPORATION
1043 N. 30TH ST. UPTOWN 3-8100 MILWAUKEE 10, WIS.
Eastern Plant and Sales Office: Bound Brook, New Jersey
Bound Brook 9-3100
Western Representative: Seaman Hayhes Co. — Oakrock 3-3244
Merchants Exchange Building, San Francisco 4, Calif.
Midwest Sales Representative:
947-31 Milwaukee Ave., Chicago 22, Ill. — Monroe 6-1762

BREVITY—Identify by IEN - 7036 if you write the maker

Need VOLUME on SMALL PARTS like these?

Investigate MULTI-SWAGE

● If it's VOLUME you need on small tubular metal parts similar to these, be sure to look into Bead Chain's MULTI-SWAGE Process. Many prominent users of solid pins for electronic and mechanical purposes have cut costs by switching to Multi-Swaged *tubular* pins . . . without sacrificing strength or accuracy. Multi-Swage Parts serve in a wide variety of electronic and mechanical products. Send part (up to ¼" dia. and to 1½" length) and your specs for a quotation. Or write for DATA BULLETIN.

The BEAD CHAIN Mfg. Co.
59 Mountain Grove St., Bridgeport 5, Conn.
Manufacturers of BEAD CHAIN — the kinkless chain of a thousand uses, for fishing tackle, novelty, plumbing, electrical, jewelry and industrial products.

BREVITY—Identify by IEN - 7037 if you write the maker

TESTING . . Portable instrument for moisture in wood, concrete, plaster

Source: DELMHORST INSTRUMENT CO.
51 Butler Road, Boonton, N. J.

Model G designates new moisture meter calibrated to read directly between 7 and 35 per cent moisture when its battery-powered bridge circuit is actuated by application of its multiple-contact cord-connected electrode. The instrument measures 7 by 3¼ by 4½ in. and weighs 3¼ pounds. It is supplied with a carrying strap and has an outlet on its face into which the electrode cord is plugged. Interchangeable electrodes permit measuring the moisture content of wood and in determining the content in plaster and on concrete surfaces prior to painting.

Power is provided by a standard battery and flashlight cell contained within the housing in accessible position for quick replacement. The circuit is opened to prevent unnecessary discharge when the unit is put inside its carrying case or when it is placed face down. A push knob, also on the housing face, is depressed for battery check in connection with a red line on the dial. List price is $75.00.

BREVITY—Identify by IEN - 7038 if you write the maker

CONNECTOR . . Electronic tube cap molded to lead for miniature tubes

Source: AIDEN PRODUCTS CO.
115-19 N. Main St., Brockton 64, Mass.

Wire and grid cap are molded in one unit in this new Type-90 ISTL long-skirt tube cap. The skirt eliminates possibility of flash-over from the cap to the chassis in equipment operating at high voltage. The one-piece assembly of wire and cap provides strain relief for the leads. There are no sharp edges or multiple fingers that can result in corona effect. Polyethylene plastic is employed in the assembly for normal operation. Kel-F can be used for high temperature.

BREVITY—Identify by IEN - 7039 if you write the maker

MANAGEMENT . . Preventive maintenance service now offered to users of the company's office furniture

Remington Rand Inc.
315 Fourth Ave., Room 1618, New York 10, N. Y.

Mechanical service, regular inspection, lubrication, cleaning, adjustment, and emergency service when required are included in new Preventive Maintenance Service. It operates on a fixed annual charge based on number of pieces of equipment, such as file cabinets, chairs, desks. Details on request.

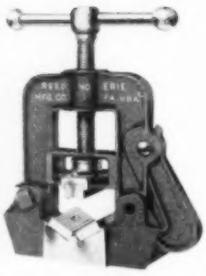
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7040 if you write the maker

Built to last!

REED

LONG JAW PIPE VISES
Work Better, Faster, Easier.



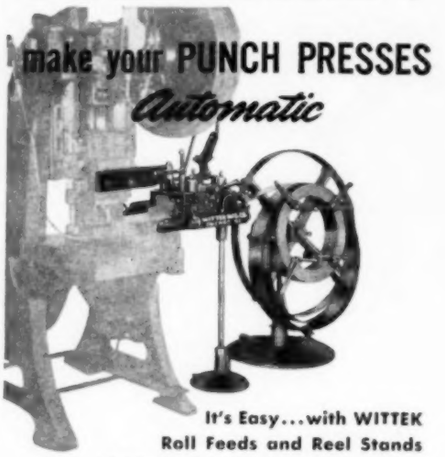
Wrench action of patented, long-bearing jaws holds any pipe firmly without crushing or marring. Lower jaws are reversible for double service. Patented features end lost motion. Precision machined throughout. *Ask your jobber.*

Remember . . . In a vise or pipe tool, if it's a REED . . . it's RIGHT!

REED TRADEMARK
MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

BREVITY—Identify by IEN - 7041 if you write the maker

make your PUNCH PRESSES *Automatic*



It's Easy . . . with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

WITTEK Manufacturing Co.
4336 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

BREVITY—Identify by IEN - 7042 if you write the maker

WESTON *Readable* ALL-METAL THERMOMETERS

AVAILABLE IN THESE 3 TYPES

STANDARD INDUSTRIAL THERMOMETERS

All-metal dial types with stainless steel stems, in straight and angle forms. Scale lengths 3"–6" and 9", with stems from 2½" to 72". Available as testing thermometers, and for general purpose and heavy duty service. Ranges from −100 to +1000°F. All-metal construction prevents breakage, assures dependable accuracy for longer periods.

CONTACT MAKING THERMOMETERS

Combines the features of the all-metal indicating thermometer with an alarm or control device. Has adjustable contact arm mounted in the glass and bezel. Supplied to make contact on increasing or decreasing temperatures. Has positive magnetic type contacts. Contact rating . . . 100 ma at 110 volts a-c; 50 ma at 110 volts d-c. Stem lengths 2½" to 24".

MAX-MIN® THERMOMETERS

Equipped with a manually set red index which moves up or down scale with pointer, remaining at extreme temperature reached until reset. Thus one reading gives present temperature, and maximum or minimum reached since last reading. Available in scale lengths of 6" and 9"—stem lengths 2½" to 24".

Literature describing Weston all-metal, as well as electrical and glass thermometers, sent on request. WESTON Electrical Instrument Corporation, 603 Frelinghuysen Avenue, Newark 5, New Jersey . . . manufacturers of Weston and TAGliabue instruments.

WESTON *Instruments*

BREVITY—Identify by IEN - 7044 if you write the maker

AUTOMATIC METERING *pays off!*

Wherever liquids feed into processes, these new batching meters save ingredients, hit formulas "on the nose," eliminate unsanitary conditions, and provide accurate cost figures. Save time, too! Simply push buttons to set the meter, open the valve, and the Auto-Stop cuts off at exactly the right quantity. No more gauge sticks, batch tanks or buckets. Auto-Stop sizes 1", 1½" and 2" for water, syrups, oils, and other liquids. Ask for facts—just telephone Neptune office nearest you.

NEPTUNE METER CO. • 50 WEST 50th STREET • NEW YORK 20
Atlanta • Boston • Chicago • Dallas • Denver • No. Kansas City
Louisville • Los Angeles • Philadelphia • Portland • San Francisco

BREVITY—Identify by IEN - 7045 if you write the maker

we've built a GIANT

. . . to produce high vacuum in bigger chambers—at less cost—than ever before

SAY you're producing one of the modern metals that has wonderful properties but can't stand oxygen at high temperatures. Or maybe your problem is a large wind tunnel, a synchro-cyclotron, or a vacuum dehydration chamber for biologicals.

You want to push out into the atmosphere as much air or gas as possible at the lowest cost. You may need to exhaust down to 1/2000th of atmospheric pressure or as low as 1/75,000th of an atmosphere.

DPi now supplies a series of non-mechanical pumps which can operate in this pressure range at rates well over 10,000 cubic feet per minute, compressing air and gas to the point where mechanical pumping becomes highly efficient—to pressures as high as 10 mm Hg where needed.

If you will tell us your vacuum pumping requirements, we'll be glad to show you how these unique oil ejector pumps make possible a new order of operating economy for large high vacuum systems. Write *Distillation Products Industries,* Vacuum Equipment Department, 761 Ridge Road West, Rochester 3, N. Y. (Division of Eastman Kodak Company).

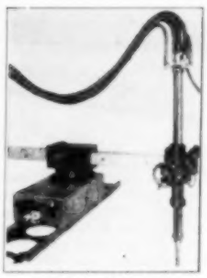
DPi **high vacuum research and engineering**

Also . . . vitamins A and E . . . distilled monoglycerides . . . more than 3400 Eastman Organic Chemicals for science and industry

BREVITY—Identify by IEN - 7047 if you write the maker

CUTTING . . Acetylene torch machine, track mounted, also to weld, harden

Source: AIR REDUCTION SALES CO.
1656 Lincoln Bldg., New York 17, N. Y.



Radiagraph No. 41 is a new motor-driven assembly of machine and straight track to mount and travel an acetylene torch or group of torches at an adjustable speed range between 1 and 72 in. per minute. The torch equipment can be selected for cutting operation, for welding or for flame hardening. The overall speed range is divided into two intermediate ranges between 1 and 11 ipm. and 8 to 27 ipm. Operation is on 110-volt ac. or dc. with ac. preferred. Overall dimensions are 31½ by 13 by 8⅝ inches. The track measures 10 in. in width. The machine alone weighs 180 pounds. One 10-ft. track section, adds 130 pounds.

Illustrated detail including data on the machine and on the torch equipment are contained in a 6-page bulletin, "No. 41 Radiagraph Gas Cutting Machine".

BREVITY—Identify by IEN - 7048 if you write the maker

FLOORS . . Liquid wax for concrete, cork, linoleum, marble

Source: NU SURFAS CORP.
7310-14 Bennett Ave., Chicago 49, Ill.

Packaging is in 1 to 55 gal. drums

Pen-Trating is a new liquid wax composed of oils and solids blended to the consistency of water. The liquid is flowed over a floor surface and is spread by a push-broom. It penetrates into the surface, dries to form a non-slippery finish that is resistant to penetration by water and is grease proof, stain proof.

Coverage is about 100 sq. ft. per gal. in two coats. The dry film does not adhere to dirt so most of the surface dirt on a normal floor can be swept away and scrubbing with soap or detergent is minimized in cleaning the floor.

BREVITY—Identify by IEN - 7049 if you write the maker

PUSHING . . Bushing drive set to assemble bushings in mounting holes

Source: BONNEY FORGE & TOOL WORKS
51 Tilghman St., Allentown, Pa.

No. BU45B designates a new set of shouldered collars and drive pin with knurled ends to assemble bushings. Sizes are 1⅞ to 1⅞ inches. The parts are made of alloy steel and are heat treated. The set covers the requirements of a majority of trucks, buses, tractors, farm, road and construction equipment requiring service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7050 if you write the maker

1,000 STARTING and BRAKING OPERATIONS PER HOUR with a BROWN BOVERI *Quick* STOP MOTOR

Planing machine using Quick-Stop Motors on feed and tool slide adjustments. To 1,000 starting and braking operations per hour.

Built for rugged industrial service—this combination BRAKE-&-DRIVE all-in-one unit as initial equipment or for replacement where frequent starts and stops are required—needs no outside power source or special controls for applying or releasing the brake.

The Brown Boveri QUICK-STOP Motor *releases its brake and starts instantly* when power is applied. It *stops and brakes with 150% of normal torque* when power is cut. No creep and no backlash. And, it can be reversed like any standard 3-phase motor.

The QUICK-STOP Motors can be mounted horizontally or vertically—for forward or reversing operations—with available ratings from .3 to 8 H.P. in drip-proof and .2 to 4 H.P. totally enclosed.

When the job requires STOPS QUICKER THAN QUICK and STARTS JUST AS FAST—again and again—that's when you need a Brown Boveri QUICK-STOP Motor. Learn why these motors are world-famous for dependable, trouble-free service.

MAIL COUPON TODAY!

Please send me data and prices on your QUICK-STOP Motors.

Name ..... Title .....

Company .....

Address .....

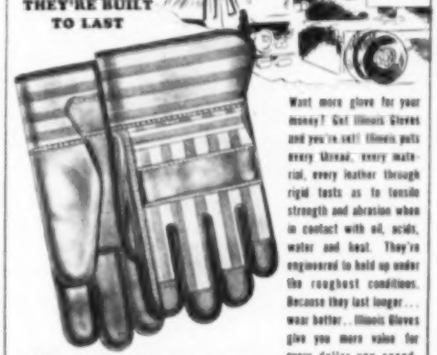
BROWN BOVERI CORPORATION
19 Rector St. • New York 6, N. Y.

BREVITY—Identify by IEN - 7051 if you write the maker

COSTS GOT YOU DOWN? TAKE A LOAD OFF YOUR GLOVE BUDGET . . . GET

ILLINOIS GLOVES

THEY'RE BUILT TO LAST



Want more glove for your money? Get Illinois Gloves and you're set! Illinois puts every thread, every material, every leather through rigid tests as to tensile strength and abrasion when in contact with oil, acids, water and heat. They're engineered to hold up under the roughest conditions. Because they last longer . . . wear better . . Illinois Gloves give you more value for every dollar you spend.

Write Industrial Division Illinois Glove Company for catalog & prices

ILLINOIS GLOVE CO., CHAMPAIGN, ILL.

BREVITY—Identify by IEN - 7052 if you write the maker

where dependable timing is required . . . consult *Cramer*

As specialists in TIME as a factor of CONTROL, we have developed a wide range of timing devices for a great variety of commercial and industrial applications . . . and will welcome the opportunity to recommend the equipment best suited to meet your specific requirement. Write for complete information.

THE R. W. CRAMER CO., INC.
BOX 16, CENTERBROOK, CONN.

BREVITY—Identify by IEN - 7053 if you write the maker

Mathews Elevating Conveyers

"ENGINEERED TO SERVE PRODUCTION"

• One of the many widely applied types of conveying equipment designed and built by Mathews Conveyer Company.

The complete line of Mathews designed—Mathews built Conveyers includes the following:

ROLLER CONVEYERS • CHAIN CONVEYERS • LIVE ROLLER CONVEYERS
WHEEL CONVEYERS • BELT CONVEYERS • TROLLEY CONVEYERS
ROLLER SPIRAL CONVEYERS • PORTABLE CONVEYERS
SPECIAL CONVEYING MACHINERY

MATHEWS CONVEYERS

GENERAL OFFICES
Mathews Conveyer Company . . . Ellwood City, Pennsylvania
PACIFIC COAST DIVISION
Mathews Conveyer Company West Coast . . San Carlos, Calif.
CANADIAN DIVISION
Mathews Conveyer Company, Ltd. . . . . Port Hope, Ontario

Engineering Offices or Sales Agencies in Principal American and Canadian Cities

BREVITY—Identify by IEN - 7054 if you write the maker

MECHANICAL MUSCLES
WHICH ELIMINATE THE NEED FOR EXTRA HANDS — EXTRA TRIPS

PORTELVATOR
HANDY HAMILTON PORTABLE ELEVATING TABLE
LIFTS — LOWERS — LEVELS TRANSPORTS

learn the penny-pinching particulars, write for this
FREE BULLETIN NO. P-505

The Hamilton TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

BREVITY—Identify by IEN - 7055 if you write the maker

LOCALITES

for Better Light ON the Job

Directs Light Exactly Where Needed as Easily as Pointing Your Finger

Designed Especially for Machine Tools, and Work on Assembly and Inspection Benches

MODEL 3267-H-174

Overall length 32¼". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

$6.12 EACH in pkg. of 6 Single Units $7.65 ea.

- **Rugged Construction** to stand strains and shocks
- **Instantly Adjustable** with full swivel ball and socket joints
- **Infra-red Baked Enamel Finish** — Exterior, Wrinkled Gray — Reflector Interior, high temperature White
- **Reflector** accommodates 100 watt A-21 medium screw base lamp
- **Wired Complete** with switch socket and 8 ft. oil resistant cord

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO

Localites are available through selected distributors everywhere.

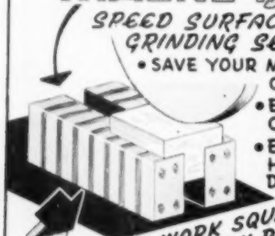
LOCALITE fostoria for Light ON the Job

BREVITY—Identify by IEN - 7056 if you write the maker

WHEN ACCURACY COUNTS...

Contact SCHERR!

MAGNE-BLOX
SPEED SURFACE GRINDING SET-UPS!



- SAVE YOUR MAGNETIC CHUCKS
- ELIMINATE CLAMPS
- ELIMINATE HOLDING DEVICES

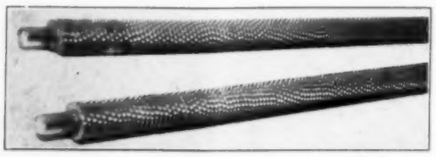
★ GRIND WORK SQUARE...
★ GRIND WORK PARALLEL...
★ HOLD ROUND PIECES...

•EVERY MAN CAN OWN HIS OWN•
WRITE FOR ILLUSTRATED FOLDER
GEORGE SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST., N. Y. 12, N. Y.

BREVITY—Identify by IEN - 7057 if you write the maker

TUBE . . Wrinkled fin design for heat exchange to 1,800 deg. F.

Source: CHAPMAN LABORATORIES
P. O. Box 207-A, West Chester, Pa.



A wrinkle near the outer edge of the fin on this new tube produces a slight turbulent scrubbing action of cooling air at a place where the fin is losing its effectiveness. The design accounts for an increased transfer rate, over the conventional fin, of 10 to 12 per cent according to tests that have been made. The increased pressure drop caused by the scrubbing action is negligible compared to the increased efficiency.

The tube is available in base diameters of ⅝ to 1¼ in. with fin pitch from 4 to 8 per inch and fin height to 150 per cent of the tube radius. Construction can be in carbon steel, copper, nickel, Inconel. The fins are brazed in place. Inconel combinations have been in oxidizing service at 1,200 deg. F. without any sign of deterioration.

BREVITY—Identify by IEN - 7058 if you write the maker

HANDLE . . Ring type grip and plate for use on portable equipment

Source: FRIEZ INSTRUMENT DIVISION
1338 Taylor Ave., Towson 4, Md.

Load rating is 150 lb. with a generous factor of safety for this new handle. It is made of stainless steel and aluminum and is designed for riveting or welding or bolting to suitable side surfaces on portable equipment and containers. Overall dimensions are 4¾ by ⅝ by 3½ inches. Each assembly weighs eight ounces. The company initially designed the unit for its own use. Now it is offering it for sale to others as previously advertised IEN-4891-51.

BREVITY—Identify by IEN - 7059 if you write the maker

RELIEF . . How the CARE organization works and what it has done since 1945 summarized in booklet

CARE
20 Broad St., New York 5, N. Y.

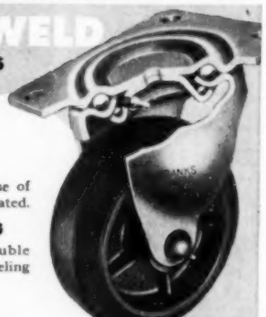
"Ten Million Ambassadors" titles new 36-page booklet that marks the fifth anniversary of the Cooperative for American Remittances to Europe Inc., usually known as CARE. The title comes from the ten million food packages sent abroad by the American people through this organization. The booklet tells how it was done.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7060 if you write the maker

NEW CONSTRUCTION

LOCK-WELD
SWIVEL CASTERS
(Patented)



NO KING PIN
the greatest single cause of caster failure is eliminated.

EASIER SWIVELING
rigid alignment of double ball race increases swiveling efficiency.

SUPER STRENGTH
projection welded assembly, no wear between moving parts. Patented leg design prevents bending and buckling.

SERIES 23
PRESSED STEEL
SWIVEL CASTERS
SIZES 4"-6"

(SINGLE BALL RACE CASTERS—SERIES 21—SIZES 2"-6")

THE Fairbanks COMPANY
393 LAFAYETTE STREET • NEW YORK 3, N. Y.
Branches: New York 3 • Pittsburgh 22 • Boston 10 • Rome, Ga.

VALVES • DART & PIC UNIONS • TRUCKS • CASTERS

BREVITY—Identify by IEN - 7061 if you write the maker

In plants which actually manufacture the acids and alkalies you use, Prufcoat has been providing positive protection against costly corrosion for over 10 years now . . . on *concrete floors, walls, ceilings, structural steel, tanks and other equipment.* Write for Prufcoat literature.

Where Acids or Alkalies Destroy Prufcoat PROTECTS

NEW!
PRUFCOAT METAL-REACTIVE PRIMER P-10

Does not require as complete surface cleaning as most other priming methods and works well on damp or dry surfaces. Write today for Prufcoat Technical Bulletin 012.

Prufcoat Laboratories, Inc.
50 East 42nd Street
New York 17, N.Y.

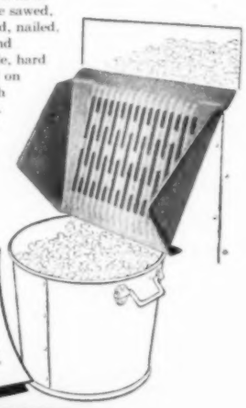
Preventive Maintenance PAYS!

BREVITY—Identify by IEN - 7062 if you write the maker

2 out of

for remarkable U. S. Royalite

There is virtually no end to the uses of U. S. Royalite. Designers and engineers say it gives them new freedom of design, lets them attain an efficiency often never possible with any other thermoplastic. Royalite is obtainable either standard or flame-resistant. It can be sawed, sheared, sanded, punched, nailed, bolted, riveted, sewed and cemented. Stiff or flexible, hard or soft, it can be formed on standard equipment with conventional techniques. The engineering staff of United States Rubber Company will be glad to work with you or advise you on any application of Royalite you may suggest.



U.S. Royalite®
STANDARD OR FLAME RESISTANT

SEE NEXT PAGE FOR LIST OF U. S. ROYALITE FABRICATORS

UNITED STATES RUBBER COMPANY
2638 North Pulaski Road, Chicago 39, Illinois

▼ BREVITY—Identify by IEN - 7064 if you write the maker ▼

NOW!

PRE-TIME

Manufacturing — Processing — Test Operations Automatically on Schedule from ONE MINUTE to ONE WEEK!

NEW Cincinnati "MASTER PRO"

This precision-engineered program timer provides up to six circuits for accurate timing *in advance!* Indispensable for positive control of equipment and processes. Self-regulating; develops 24 volts DC and 24 or 115 volts AC to actuate relays, switches, secondary clocks, time recorders. Rugged metal case with attractive gray wrinkle enamel finish. Operates on regular 60 cycle 115 volt AC. Write for complete specifications, or see your CINCINNATI distributor.

Cincinnati

THE CINCINNATI TIME RECORDER CO.

1733 Central Ave., Cincinnati 14, Ohio

Pioneer in Development and Manufacture of Time Control Equipment Since 1896

▼ BREVITY—Identify by IEN - 7065 if you write the maker ▼

1,000 uses

the Versatile Thermoplastic

ROYALITE IS:

- ★ Standard or flame-resistant
- ★ Lightweight
- ★ Non-splintering
- ★ Non-Warping, non-corrosive
- ★ Tough
- ★ Highly resistant to impact
- ★ Waterproof, stainproof
- ★ Not affected by oils, most acids, alkalies
- ★ Available in different colors, for easy classification
- ★ Stable under changing atmospheric conditions
- ★ Exceptional electrical insulating properties
- ★ Low rate of heat conductivity

U.S. Royalite — STANDARD OR FLAME RESISTANT

CONSULT THESE EXPERIENCED FABRICATORS OF ROYALITE

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Horace L. Blackman Co., 287 So. Robertson Blvd., Beverly Hills
General Plastics Corp., 727 W. Broadway, Glendale 4
Engineering Plastics Co., 1475 El Mirador Dr., Pasadena 3
National Plastics Industries, 425 Divisadero St., San Francisco
Hollywood Plastic Arts, 503 W. Olympic Blvd., Los Angeles 15
Swedlow Plastics Co., 5527 District Blvd., Los Angeles 22
Westwood Craftsmen, Inc., 2043-45 Pontius Ave., Los Angeles 25
Associated Mfg. Co., 541 S. Fair Oaks Ave., Pasadena 2

COLORADO
Pikes Peak Plastic, 5 W. Cucharras St., Colorado Springs
Denver Plastics, Inc., 200 S. Dale Court, Denver 9

FLORIDA
Plastics Design & Mfg. Company, Box 61, Tallahassee

GEORGIA
Gladwin Plastics, 542 Courtland St., N.E., Atlanta

ILLINOIS
Arrow Plastic, 1539 N. Throop St., Chicago 22
Associated Plastics Fabricators, 164 N. May St., Chicago 7
L. A. Goodman Mfg. Co., 131-145 W. 63rd St., Chicago 21
Laidman-Kritpin Co., 1308 N. Halsted St., Chicago 22
Cortland Industries, Inc., 4545 W. Cortland Street, Chicago 39
Neo Products Co., 2534-38 S. Kedzie Ave., Chicago 23
O-Lin Products, 3755 Kedzie Avenue, Chicago 18
Precision Plastic Products Inc., 628 W. Lake St., Chicago 6

INDIANA
General Plastics Corp., 1400 N. Washington, Marion

MARYLAND
Fawn Plastics Co., 2902 Hamilton Ave., Baltimore 14

MICHIGAN
Cadillac Plastic Co., 651 W. Baltimore, Detroit 2
Imperial Industries, 4435 Walker Ave., Wayne
Kline Mfg. Co., 50 Cottage Grove S.W., Grand Rapids 2
Reynolds Plastics, Inc., 3445 W. Forth St., Detroit
Fabri-Kal, 242 East Kalamazoo Avenue, Kalamazoo
Woodall Industries Inc., 7565 E. McNichols Rd., Detroit 34

MINNESOTA
T. O. Plastics, 58th & Longfellow, Minneapolis
Plastics, Inc., Chestnut & Ryan Sts., St. Paul 2

MISSOURI
Regal Plastics Co., 710 Main St., Kansas City

NEBRASKA
Omaha Plastics Co., 1470 S. 16th St., Omaha 9

NEW JERSEY
Sillcocks-Miller Co., 10 W. Parker Ave., Maplewood
Stokes Molded Products, Inc., Taylor St. at Webster, Trenton 4
Thermacote Co., 320 Jefferson St., Newark 5
Van Beek Industries, 23 Park St., Orange

NEW YORK
Bassons Molded Products, 1424 W. Farms Rd., New York 60
Copeland Displays, Inc., 537 W. 53rd St., New York 19
Curtell Inc., 1700 Elmwood Ave., Buffalo 7
Dual Fabricators Corp., 808 Driggs Ave., Brooklyn 11
Dura Plastics Inc., 1 W. 34th St., New York 1
Durable Formed Products, Inc., 329 Canal St., New York 13
Madercraft Plastics Co., Inc., 95-32 150th St., Jamaica 4
Steiner Plastics Mfg. Co., 47-30 33rd St., Long Island City 1

OHIO
Fabri-Form Co., Box 36, Cambridge
The Baxter Company, 15 E. 2nd Street, Cincinnati

PENNSYLVANIA
Halsen Mfg. Co., 5919 Webster St., Philadelphia
Lee Plastics, A and Lippincott St., Philadelphia 34
Pearson Beringhof, Inc., 18 North State Street, Newton
The Bell Plastics Co., Inc., 600 Heinz Street, Pittsburgh 12

TENNESSEE
Plasti-Line, Inc., Jacksboro & Broadway, Knoxville 18

TEXAS
Plastic Engineering Co., 2101 69th St., Houston 11
Plastic Products of Texas, 1400 Cedar Springs, Dallas

WASHINGTON
K. B. Plastics, Inc., 1817 So. 1st St., Yakima
Mason Plastics Company, 1121 Westlake North, Seattle

WISCONSIN
Midland Plastics Inc., 227 N. Water St., Milwaukee 2

The United States Rubber Company at 2638 North Pulaski Road, Chicago, Illinois, has complete Engineering, Designing, and Styling Departments to assist fabricators on the technique to employ, and in the art of fabricating most efficiently with ROYALITE.

▼ BREVITY—Identify by IEN - 7067 if you write the maker ▼

GAGE . . Planimeter adapter to measure large areas in one operation

Source: LOS ANGELES SCIENTIFIC INSTRUMENT CO. 106-10 W. 6th St., Room 1102, Los Angeles 14, Calif.

Three lengths at 29, 59 and 78 in. are available in this new linear planimeter adapter. It applies with any standard polar planimeter to measure large working areas without having to divide it into integral parts for separate measurement. The shortest of the three units measures an area that will fall within 12½ in. in width by 29 in. in length. The longest will cover 12½ by 78 inches. The adapter is made of steel finished in crinkled enamel and equipped with a prevision V-groove and roller head. Packaging is in a fitted wooden case.

▼ BREVITY—Identify by IEN - 7068 if you write the maker ▼

LATHE TOOLS . . Tool steel bits and cut-off blades for general use

Source: GORHAM TOOL CO. 14402 Woodrow Wilson Ave., Detroit 3, Mich.

Illustrated detail in 4-page bulletin

Standard, Super Molybdenum and Gormet are three new tool steels available in the form of rectangular tool bits from 3/16 in. in square section by 2½ in. in length to 1¼ by 8 in. for the first two types. The range is ¼ to 1 in. in section and 2½ to 5 in. in length for the Gormet type. Rectangular sizes are between ¼ by ⅜ by 2½ in. and ⅞ by 1¼ by 7 inches. The three types are designed for general use, for heavy-duty turning, for machining operations in soft or abrasive stock at high speed.

The line includes 17 stock sizes of ground cut-off blades with thickness from 1/16 to 5/16 in. and width from ½ to 1 in. with lengths at 4½ to 6½ inches. These in Standard steel.

▼ BREVITY—Identify by IEN - 7069 if you write the maker ▼

STRAPPING . . Hand tensioning tool for steel strapping, ⅜ to ¾ inch

Source: A. J. GERRARD & CO. 1948-52 Hawthorne Ave., Melrose Park, Ill.

Steelbinder No. 120 is a new tensioning tool to draw steel strapping tightly around any size or shape of object. It is particularly suited for work in confined locations as on ladders and scaffolds. After the strap has been drawn tight the loose end is cut with a separate tool, not illustrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 7070 if you write the maker ▼

Fast-Flo TRANSFER PUMP

HANDLES HUNDREDS OF FLUIDS AND SEMI-FLUIDS

WORKS·DOZENS OF WAYS!

● Handiest piece of equipment in the plant! That's the verdict at scores of plants which use Graco's Fast-Flo Transfer Pumps.

Fast-Flo is a really versatile worker . . . has dozens of different specific uses. Here are just a few ways it will work for you:

- For transferring fluids from original drum to smaller vessels.
- For transferring from open tanks to smaller vessels.
- For transferring fluids to an overhead tank.
- For supplying multiple outlets above or below pump.
- For supplying hose reel which reaches several mixing vats or other vessels.

Fast-Flo is low in cost . . . easy to handle . . . a rugged worker. Provides double-action, high volume delivery. Air-operated. *Write today for free literature!*

GRAY COMPANY, INC.
73 Graco Square
MINNEAPOLIS, MINNESOTA

GRACO Fast-Flo TRANSFER PUMP

District Offices in NEW YORK, PHILADELPHIA, CHICAGO, DETROIT, SAN FRANCISCO

▼ BREVITY—Identify by IEN - 7071 if you write the maker ▼

New packing technique for shippers!

Note, in the above photo, the wide gap between top and bottom sections of the Ives Company telescopic-type shipping carton. One 2" strip of *Polyken* Industrial Tape No. 261 takes care of this; forms a strong, waterproof seal that stands up under the roughest handling during shipment. No. 261 meets government specifications, has a tensile strength of 50 lbs. per 1" width. Sticks firmly to any type of shipping carton.

Ask your *Polyken* distributor or write for free folder, "Tape is a Tool." Address *Polyken*, Dept. IEG, 222 W. Adams Street, Chicago 6.

ONE OF THE NEW . . .

Polyken® INDUSTRIAL TAPES

TAILORED TO YOUR JOB

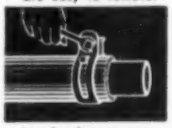
POLYKEN Industrial Tape, Department of Bauer & Black, Division of The Kendall Company

▼ BREVITY—Identify by IEN - 7072 if you write the maker ▼

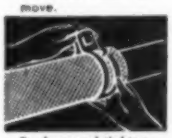
● PERFECT CIRCLE

● HEAVY STEEL

Clancy steel clamps won't rust on . . . are easy to remove.



Merely loosen nut and bolt and remove.



Replace and tighten. Perfect circle assures uniform fit.

CLANCY SURE-GRIP HOSE CLAMPS

Can be Reused

. . . can be removed and replaced time after time without injury to the hose, clamp, nut or bolt.

Clancy Sure-Grip Clamps keep their shape, hold any pressure the hose will stand. All parts separately galvanized — no rough edges, won't rust or stretch. For air, gas, water or steam. Every size to fit any hose — foreign or domestic. Write for prices.

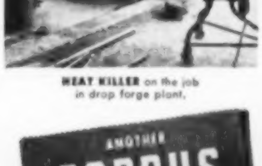
J.R. CLANCY INC.
1008 W. Belden Ave.
SYRACUSE 4, N. Y.

▼ BREVITY—Identify by IEN - 7073 if you write the maker ▼

Man-Cooler!

Coppus Airplane Type Heat Killer

cools large areas — restores efficiency



HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information. COPPUS ENGINEERING CORPORATION, 147 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

BREVITY—Identify by IEN - 7074 if you write the maker

INSURE Proven Quality with JONES PLUGS AND SOCKETS

P-306-CCT Plug, Cable Clamp in Cap.

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

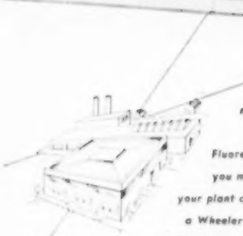
Ask for Jones Catalog No. 18 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Send for complete data on this new basic improvement!

HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

BREVITY—Identify by IEN - 7075 if you write the maker

LIGHTEN YOUR Defense PRODUCTION LOAD WITH Wheeler REFLECTORS



Converting to defense production? You'll need the greater lighting efficiency of Wheeler Fluorescent Fixtures. Whatever you manufacture . . . whatever your plant conditions . . . there's a Wheeler Fluorescent Fixture that's right for the job. Get complete details from Wheeler Reflector Co. 275 Congress St., Boston 10, Mass.

Wheeler REFLECTORS

MADE BY SPECIALISTS IN LIGHTING EQUIPMENT SINCE 1883

BREVITY—Identify by IEN - 7076 if you write the maker

LOwer PRODUCTION COSTS WITH KRAUS AUTOMATIC HOPPERS

Typical Tumble Hopper

USE THEM FOR...

1. Machining
2. Assembling
3. Packaging
4. Sorting

VERSATILITY. Basic hoppers can be tooled for a wide variety of pieces.

LARGE CAPACITY. Up to 2.4 cu. ft. on 32" tumble type. Eliminates frequent reloading and saves labor.

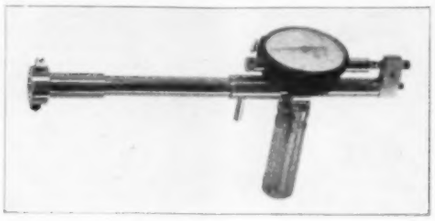
Send samples with delivery rate and orientation requirements to:

KRAUS DESIGN INC.
948 EXCHANGE ST. • ROCHESTER 8, N.Y.

BREVITY—Identify by IEN - 7077 if you write the maker

GAGE . . Dial indicator assembly for internal threads, 1/2 to 4 inches

Source: RIMAT MACHINE TOOL CO.
1115-19 Air Way, Glendale 1, Calif.



New design of the company's dial bore gage, previously described IEN-6780-50, applies in measuring internal threads from the pitch line of any one thread to the pitch line of the two threads lying diametrically opposite. Following initial set-up to a basic ring gage, the new unit gives plus or minus deviations from basic pitch acting as a comparator. Indicator reading is in .0001 in. divisions. Range is plus or minus .003 in. for any one setting.

Standard assemblies in the line are available for NC threads from 1/2 in. 13 to 4 in. 4 and NF threads from 1/2 in. 20 to 1 1/2 in. 12. Accuracy is independent of the degree of concentricity between pitch diameter being measured and any related outside diameter.

BREVITY—Identify by IEN - 7078 if you write the maker

CLEANING . . Rotary brush machine to scrub, wax and polish a floor

Source: LINCOLN-SCHLUETER FLOOR MACHINERY CO.
1248-52 W. Van Buren St., Dept. C, Chicago 7, Ill.

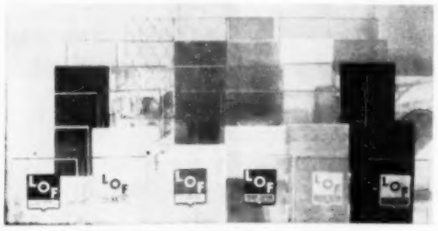
Interchangeable brushes, 1/4-hp. continuous-duty motor, improved gear unit, sealed-in lubricant and a redesigned wheel carriage characterize construction of this recently improved Cadet floor-scrubbing machine. The motor drives the 10-in. brush at 190 rpm. with connection to a 110-volt single-phase 60-cycle ac. circuit.

Dimensions are 19 3/4 in. in width, 14 in. in length 11 1/4 in. from the floor to the top of the motor. The machine weighs 35 pounds. Equipment includes a 25-ft. length of rubber-covered extension cable and plug, one plain wood-backed brush or one channel-feed scrub brush and a set of operating instructions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
All products and services are indexed, page 102

BREVITY—Identify by IEN - 7079 if you write the maker



117 Answers to "Special" Design Problems

Visibility, obscurity, greater safety, color, light, insulation, beauty—no matter what your design problem, you should be able to find just the answer you're looking for in Libbey·Owens·Ford flat glass. We've developed over 117 types, colors and thicknesses to meet a wide range of uses. Included are such special purpose products as Safety Glass, *Thermopane** insulating glass, *Tuf-flex** heat- and shock-resistant glass, heat absorbing glass and *Vitrolite** opaque colored glass. Specifications on each of these—and many others—are included in Bulletin SPD-51.

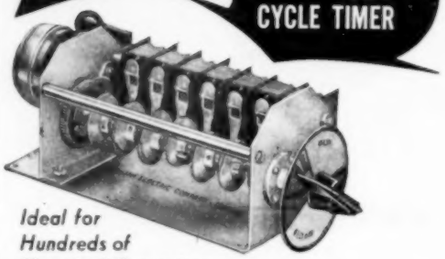
*®

Write for your copy of this valuable booklet.

LOF GLASS
LIBBEY·OWENS·FORD GLASS COMPANY
8671 NICHOLAS BLDG.
TOLEDO 3, OHIO

BREVITY—Identify by IEN - 7080 if you write the maker

For Immediate Delivery.... The NEW ZENITH Multi-Circuit CYCLE TIMER



Ideal for Hundreds of Electrical Operations

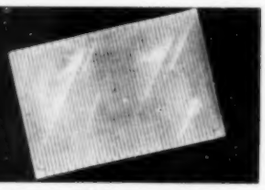
Specially designed to accurately time any operation—for electrical display signs, industrial furnaces, electrical appliances, laundry equipment and dry cleaning machinery. The Multi-Circuit Cycle Timer and other Zenith units will also solve many laboratory timing problems. May be set for on and off periods with as many circuits as desired . . . can be furnished without synchronous motor for elevator control, limit switch and similar operations. Available now!

For information on volts, cycles and circuits as well as prices—send for illustrated Bulletin No. 142.

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

BREVITY—Identify by IEN - 7081 if you write the maker

Radiant Electric Heat...



from Glass Plates for use in production or product

CROSS SECTION

Smokeless, dustless electrical heat, radiated uniformly from a strong, tempered glass panel. Secret: A paper-thin aluminum grid fused to the back.

Think of the places in your production process or in your product itself where heating or drying can be done more easily, more safely, more economically with this remarkable new unit. Interested? Send today for our technical folder. Write Dept. IEN-7.

RA-GRID HEATER PLATES
- **9 Standard Sizes:** from 6 x 14" to 16 x 28".
- **Thickness:** 1/4". Heat up to 300° F.
- **Voltage:** 230 max. for 16 x 2" plates.
- **Connections:** Two terminals.

RA-GRID HEATER PLATES

BLUE RIDGE GLASS CORPORATION • KINGSPORT, TENN.

BREVITY—Identify by IEN - 7082 if you write the maker

FOLEY FILED SAWS Pay big dividends..... HERE!

Only the best saw sharpening can give you top-speed production. The Foley Saw Filer quickly puts old saws with dull and irregular teeth back in perfect condition—and keeps them perfect! 25% to 40% increase in production is frequently realized with Foley-filed saws.

ONE machine files crosscut circular saws, band saws, hand saws.

30 DAY TRIAL OFFER

permits you to use a Foley Saw Filer in your own shop. You can't lose on this offer—write or send coupon.

FOLEY Automatic SAW FILER

FOLEY MFG. CO. 3369 N. E. Fifth St., Minneapolis 18, Minnesota
Please send literature, and details of your 30-DAY TRIAL OFFER.
Name
Address

BREVITY—Identify by IEN - 7083 if you write the maker

CUT COSTS with CORBIN Self-Tightening HOSE CLAMPS

Now used by leading manufacturers of HOME APPLIANCES • AUTOS AIRCRAFT • PUMPS • MACHINERY AIR CONDITIONERS

You can save time and money with Corbin Hose Clamps—*the self-tightening clamps that are installed in seconds to hold tightly for years!* To install: simply squeeze ends of clamp with pliers, slip clamp over connection, release—and *instantly* its spring tension creates a uniformly-tight, lasting seal even when used with *irregular castings, tube or hose!*

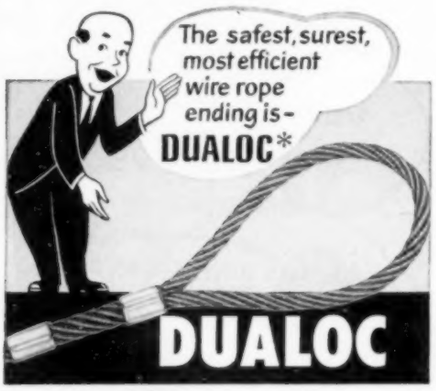
Corbin Hose Clamps fit hoses in sizes from ⅜" through 2½" O.D. They are made of heat-treated steel, protected against rust and corrosion; are used on rubber, plastic and fabric hose—to convey air, gases or liquids.

SAMPLES AND SPECIFICATIONS

Send today for specification sheet and samples! A trial will show you how efficiently these low-cost, time-saving clamps meet every hose connection need.

CORBIN HOSE CLAMP DIVISION
THE AMERICAN HARDWARE CORPORATION
New Britain, Connecticut

BREVITY—Identify by IEN - 7084 if you write the maker



ACCO Registered Wire Rope Slings

The Safest . . . The neat wrapping of strands around the rope, and the steel sleeve locked over the wire ends, prevents snagging. DUALOC can be grasped by bare hands. And, it is always "open" for inspection. You can see that the ending is safe to use. DUALOC *is the safest ending.*

The Surest . . . The DUALOC loop is made of wire rope that has not been unlaid and relaid. It is undisturbed, undistorted. Only the end of the rope is opened. All the strength of the wire rope is there to assure full capacity. DUALOC *is the surest ending.*

The Most Efficient . . . DUALOC is 100% efficient. The ending will outlast the wire rope. Because there is no distortion in ACCO *Registered* WIRE ROPE SLINGS, the wire rope will develop its full catalog strength. This means that frequently smaller diameter rope can be used resulting in lower original sling cost. DUALOC *is the most efficient.*

Added Values . . . Rated capacities based on 5 to 1 safety factor. Proof-tested at twice the rated capacity. Registered to assure satisfactory service. Standard unit ACCO *Registered* WIRE ROPE SLINGS, made from preformed wire rope, are stocked by leading distributors who will gladly discuss your sling problems. Custom-made slings on special order. Write today for literature.

*Trade Mark Registered

MEMBER THE NATIONAL SAFETY COUNCIL

ACCO Wilkes-Barre, Pa., Chicago, Denver, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

AMERICAN CHAIN & CABLE
WIRE ROPE SLING DEPARTMENT
In Business for Your Safety

BREVITY—Identify by IEN - 7086 if you write the maker

HONING . . Vertical hydraulic machine 15-in. stroke, rates ¼ to 4-in. bore

Source: C. ALLEN FULMER CO.
1215-19 First National Bank Bldg., Cincinnati 2, Ohio

Model 415 designates new vertical honing machine with maximum height under the spindle nose of 40 in. in standard construction. The machine mounts a 1¼-in. heat-treated spindle driven by a 3-hp. motor and reduction gearing to provide three speeds. Reciprocation is through a 15-in. stroke by hydraulic pressure supplied from a Vickers pump with a direct-connected 2-hp. motor. Reciprocation is adjustable between 1 and 70 ft. per minute. **Spindle and honing tools** are hydraulically counter-balanced. A stop and dwell mechanism to finish blind holes and automatic cycling action and a spindle brake are available to specification. Control centers at a push button station at the front of the base. Within the base is a double tank holding 25 gal. of hydraulic oil and 45 gal. of coolant the latter for delivery by a pump.

BREVITY—Identify by IEN - 7087 if you write the maker

PACKAGING . . Polyethylene film and tubing are heat sealable material

Source: GERING PRODUCTS INC.
7th & Monroe Sts., Kenilworth, N. J.

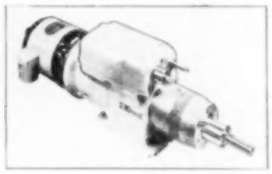
Detail data in 4-page bulletin

Ger-Pak trade names the company's new flat film and tubing made of polyethylene heat-sealable plastic in thicknesses between 0.0015 and 0.004 in. or in other thicknesses to specification. The material is transparent, can be supplied colorless or in colors as required. Width for the flat sheet ranges from 6 to 60 inches. It is 2 to 60 in. for the flat tubing. Both are supplied in rolls on 3-in. paper cores.

BREVITY—Identify by IEN - 7088 if you write the maker

DRILLING . . Motor driven head, air hydraulic feed, to ⅝ in. in steel

Source: DELTA POWER TOOL DIVISION
614 E. Vienna Ave., Milwaukee 1, Wis.



Stroke is maximum at 4 in. for this new Model 19-400 drill head. Controls are included for rapid traverse, feed, dwell and rapid return. Feed is infinitely variable to a maximum of 50 ipm. The head is driven by a motor that can be direct connected, geared or belt connected. Motor rating is ¾ to 1½ hp. depending on the service for which the head is intended. Mounting can be in any position due to the sealed construction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7089 if you write the maker

Globe Ramp Eliminator

Keeps Plant Traffic on the Level

A Globe Ramp Eliminator averts the dangers of makeshift gangplanks and provides safe, dependable, and fast vertical transportation between levels. This means less risk of damage to materials or injuries to workers.

With a Globe Ramp Eliminator, movement of materials is always across a sturdy, safe level platform instead of up or down steep ramps or temporary makeshifts. This adds up to safer, faster, easier, and cheaper handling of goods.

Got a Lifting Problem?

GLOBE

has the answer

Muscle is the world's most wasteful lifting power. A Globe OiLIFT will do it cheaper and better.

For helpful information on Self-Leveling Ramps, Machine-Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc., write for bulletin IE-313.

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

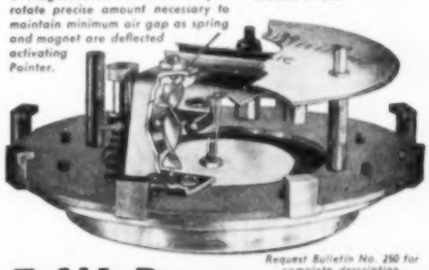
BREVITY—Identify by IEN - 7090 if you write the maker

NEW HELICAL-MAGNETIC ACTION!

DWYER MAGNEHELIC GAGES for MEASURING LIGHT AIR PRESSURES

- *Flexible Diaphragm.*
- *Cantilever Spring is deflected by diaphragm movement in proportion to pressure change.*
- *Magnet attached to outboard end of spring.*
- *Helical Pointer Assembly mounted vertically between magnet ends.*
- *Magnet forces helical assembly to rotate precise amount necessary to maintain minimum air gap as spring and magnet are deflected activating Pointer.*

The first really new development in air measurement in the last decade! Friction-less—accurate—inertia-free. No bearing or links to wear. Cannot be damaged by sudden surges. The Magnehelic Gage is not a delicate instrument and requires no special precautions in use.



Request Bulletin No. 250 for complete description.

F. W. Dwyer Mfg. Co.
307 SOUTH WESTERN AVENUE CHICAGO 12, ILLINOIS

BREVITY—Identify by IEN - 7091 if you write the maker

Fans! FOR ALL INDUSTRY

"Standard Units or Custom Design"

Fans and blowers in a wide range of standard size units are available for specific air moving and ventilating requirements. Special, custom designed equipment can also be furnished, and our staff of engineers are at your disposal for competent advice on any ventilating problem. Send for our catalog today!

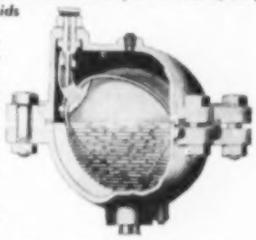
Top: Heavy Duty "MOBILE AEROSCOT." Sizes, 24" to 36" Dia.
Middle: 6-Blade "DYNAFLOW" Unit. Also available in 2 and 4 Blade types. Sizes, 16" to 36".
Bottom: "DUCTYPE" Direct Driven Blower. Single or tandem fan units. Also available with belt drive. Sizes, 16" to 36".

SOUTH BEND AIR PRODUCTS, Inc. 321 E. COLFAX AVE. SOUTH BEND, IND.

BREVITY—Identify by IEN - 7092 if you write the maker

How to get rid of ACCUMULATED AIR

in pipe lines carrying hot or cold water, industrial liquors, sewage and other liquids



The accumulation of air in water lines under pressure presents the engineer with many problems. Air, lodging at peaks in the line, reduces the effective area of the pipe, creates a friction head, lowers the entire line's pumping capacity, and may result in serious water hammer.

Simplex Air Release Valves bring a sure, efficient cure for these difficulties. Easy to install, simple in design, positive in operation . . . they vent accumulated air automatically before it can cause damage. To learn how you can avoid accumulated-air troubles, send without obligation for our new bulletin

Simplex Air Release Valve

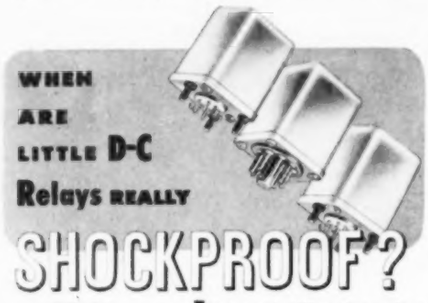
The Simplex Air Valve is easily installed . . . positive in action . . . ample in capacity. Standard valves for pressures up to 250 p.s.i. . . . special valves for pressures up to 800 p.s.i. Thousands have been in successful use for over 30 years.

IT'S SIMPLEX IT'S ACCURATE

Write for free bulletin to Simplex Valve & Meter Co., Dept. 7, 6717 Upland St., Phila., 42, Pa.

SIMPLEX
VALVE AND METER COMPANY

BREVITY—Identify by IEN - 7093 if you write the maker



WHEN ARE LITTLE D-C Relays REALLY SHOCKPROOF?

75 G's MECHANICAL SHOCK

25 G's OPERATING SHOCK

15 G's VIBRATION

The answer is "When they perform dependably under the conditions of shock and vibration for which they are recommended."

That means you can safely use these little multipole d-c relays on a wide variety of portable, mobile, aircraft, ship and commercial applications where shock does not exceed the exceptionally broad limits indicated at the left. *Write for Struthers-Dunn Data Bulletin 2610.*

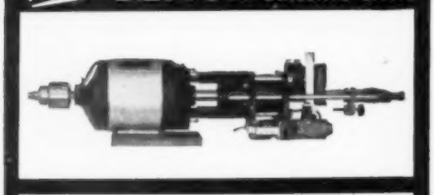
STRUTHERS-DUNN

Struthers-Dunn, Inc., 150 N. 13th St., Philadelphia 7, Pa.

BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI CLEVELAND • DALLAS • DETROIT • KANSAS CITY • LOS ANGELES MINNEAPOLIS • MONTREAL • NEW ORLEANS • NEW YORK • PITTSBURGH ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

BREVITY—Identify by IEN - 7094 if you write the maker

New BLACK SELF-CONTAINED DRILLING UNITS



NO SPLINES — Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

NO GEARS — New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

NO CAMS

NO CLUTCHES

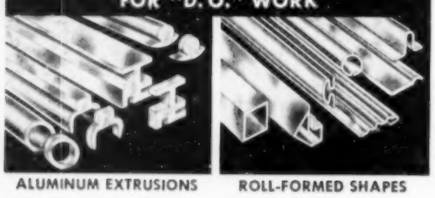
NO REVOLVING WEIGHTS — Operate in any position. Wide range of speeds and sizes.

Write for complete information

THE BLACK DRILL COMPANY
1378 EAST 222nd STREET CLEVELAND 17, OHIO

BREVITY—Identify by IEN - 7095 if you write the maker

PROMPT DELIVERY! FOR "D. O." WORK



ALUMINUM EXTRUSIONS — ROLL-FORMED SHAPES

Let Werner light metal shapes help you meet "D.O." deadlines.

You can get prompt delivery of "custom" shapes in extruded aluminum, as well as roll-formed aluminum, stainless steel, brass, zinc and copper. Shapes are manufactured to close tolerances, to your exact specifications. Quality is assured by Werner's extensive manufacturing and engineering experience, plus full production facilities, including tool-and-die-making equipment.

For an estimate, send drawing and specifications, plus data on quantity, finish, length, etc. Werner can perform the following secondary operations—bending, drilling, punching, cutting, counter sinking and welding. Finishes—as extruded, polished or anodized.

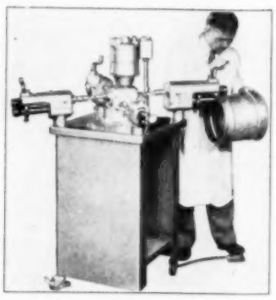
FREE bulletins describing manufacturing facilities and telling when to choose extruded or rolled shapes. Write:

R. D. WERNER CO., Inc.
295 FIFTH AVE., N. Y. 16, N. Y. • PHONE MU 6-2595
MANUFACTURERS OF ALUMINUM EXTRUSIONS AND ROLL-FORMED SHAPES

BREVITY—Identify by IEN - 7096 if you write the maker

FORMING . . Power drive table mounts sheet metal working tools

Source: NIAGARA MACHINE & TOOL WORKS
635-39 Northland Ave., Buffalo 11, N. Y.



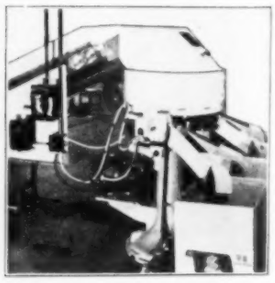
New steel table, mounted on casters, is equipped with a centrally located worm-gear reducer and ¼-hp. 110-volt single-phase ac. motor. The reducer presents four output shafts on its vertical faces for direct connection through universal joints, also supplied, to drive any four selected sheet-metal-working tools in the company's line of equipment. The motor is started and stopped at two electric foot switches assembled on flexible cables and located on opposite sides of the table.

Bulletin 85-A, 12-pages, presents illustrated description on hand-operated rotary tools for application with the power drive to bead, crimp, edge, wire, burr, flange, slit.

BREVITY—Identify by IEN - 7097 if you write the maker

PACKAGING . . Electronic equipment counts small parts into containers

Source: POTTER INSTRUMENT CO.
113-17 Cutter Mill Road, Great Neck, N. Y.



New application for the company's electronic counting equipment has been made in packaging metal bottle caps to take the place of a previous ratio-scale weighing operation. The caps are fed in two single files past photoelectric count detectors at 3,000 caps per minute. The electronic unit operates a deflector to divert the flow from a filled carton to an empty one at the proper instant. The company is prepared to engineer the equipment to meet given counting and packaging requirements.

BREVITY—Identify by IEN - 7098 if you write the maker

MANAGEMENT . . Where to find information about economic data to use in collective bargaining

American Management Association
330 W. 42nd St., New York 18, N. Y.

Purpose of new Research Report No. 17 is to serve as a guide to data for wage negotiation. Title is "Sources of Economic Information for Collective Bargaining". The 172-page book, list price $3.75, covers cost of living data, productivity, comparative wage rates and ability-to-pay data sources.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7099 if you write the maker

BARNES "SKIP TOOTH"

FOR HIGH SPEED CUTTING OF SOFT NON-FERROUS METALS • PLASTICS • FIBRES • WOOD • RUBBER

SKIP TOOTH IS A HARD EDGE FLEXIBLE BACK BLADE

The teeth of Barnes "SKIP TOOTH" are of special design and proportion in relation to the pitch or teeth per inch. The result is greater gullet capacity permitting fast cutting through heavy sections of non-ferrous metals with excellent chip clearance. Skip Tooth is recommended for plastics, rubber, wood, cork, etc. The hardened, widely spaced teeth cut freely and remain cooler at high speeds.

Ask Your Barnes Distributor for the new Barnes Band Saw folder

ESTABLISHED 1919 — **W. O. BARNES CO., INC.**
1297 TERMINAL AVE. • DETROIT 14, MICH.

BREVITY—Identify by IEN - 7100 if you write the maker

WATSON-STILLMAN HYDRAULIC POWER TOOLS

HYDRAULIC JACKS

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

HAND PUMPS

Single and double plunger types, with reservoirs of different capacities to suit the job, these hand pumps have a wide application for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

PORTABLE PIPE BENDERS

Bends all standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.

WIRE ROPE SHEARS

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

Write for Bulletin A-5

9-1-24

Distributor Products Division
WATSON-STILLMAN
ROSELLE, NEW JERSEY

BREVITY—Identify by IEN - 7101 if you write the maker

Better cleaning cuts costs in aircraft production. This 48-page illustrated booklet outlines all the big cleaning jobs. Have you seen the latest Oakite recommendations on:

¶ How to clean aluminum in preparation for anodizing? *See page 4.*

¶ How to prepare aluminum for spot welding? gas welding? heliarc welding? *See pages 10 to 14.*

¶ How to remove welding flux? *See page 14.*

¶ How to prepare aluminum for painting? *See page 15.*

¶ How to clean aluminum before and after heat treating? *See page 20.*

¶ How to strip paint from aluminum? *See page 22.*

¶ How to clean magnesium? *See page 27.*

¶ How to select and install cleaning tanks, rinse tanks and sprays, and spray-washing machines? *See pages 31 to 35.*

¶ How to treat water in paint spray booths? *See page 36.*

¶ How to clean engine test cells? *See page 40.*

FREE For a copy of *"How to clean metals in aircraft production"* write to Oakite Products, Inc., 16A Thames St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

BREVITY—Identify by IEN - 7103 if you write the maker

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY

Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

BREVITY—Identify by IEN - 7104 if you write the maker

It's a cinch to ream pipe with this RIGID

● RIGID LonGrip reamers have that extra-long-taper that cleans the burr smoothly out of pipe or conduit almost without effort. Just a few light ratcheted strokes do the job. Furnished complete with ratchet handle. No. 2 Reamer unit sold separately for use in RIGID 00R small ratchet die handle. Two sizes, No. 2, ⅛" to 2" pipe; No. 3, ⅜" to 3" pipe. These RIGID new type pipe reamers really do save your time, work — and pipe. Ask for them at your Supply House.

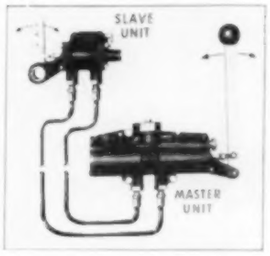
Buy reamer complete or reamer unit separately for use with 00R die handle.

RIGID
Work-Saver Pipe Tools
THE RIDGE TOOL CO. • ELYRIA, OHIO

BREVITY—Identify by IEN - 7106 if you write the maker

CONTROL . . Hydraulic equipment, transmitter operates remote receiver

Source: SUPERDRAULIC CORP.
14254-58 Wyoming Ave., Detroit 4, Mich.



Motion applied to the actuating lever of the transmitter or master unit in this new hydraulic control assembly is accurately duplicated by the receiver or "slave" unit in the movement of its lever. Equal load-handling ability is provided in both directions of movement since the operation is independent of springs or flexible compressed air. Provision is made in the design to compensate for expansion and contraction of both the fluid and the metal due to temperature changes to assure synchronized action under all conditions.

Each assembly is available for specified installation and operation. The one shown in the illustration has been developed for aircraft. It weighs approximately 4 pounds, can be held in one hand and rates 500 in. lb. of torque. There is no essential limitation in the length of the connecting tubes and these tubes can be bent as required to pass around obstructions between the transmitter and the receiver.

BREVITY—Identify by IEN - 7107 if you write the maker

LAPPING . . Accessory parts to apply company's lapping compounds

Source: ELGIN NATIONAL WATCH CO.
105-9 National St., Elgin, Ill.

All available from stock

Felt bobs and wheels, abrasive stones, polishing brushes, wood lapping sticks and wheels are now available for use with the company's diamond lapping compounds. The individual items are illustrated in detail in an available catalog.

BREVITY—Identify by IEN - 7108 if you write the maker

MARKING . . Steel stamp holder for specified size and number of type

Source: M. E. CUNNINGHAM CO.
99 E. Carson St., Pittsburgh 19, Pa.

A knurled shank to provide a good grip for the operator features the construction of this new design in the company's Wedge-Grip line of steel stamp holders in which interchangeable type are mounted in the head. The holder is made of the company's safety steel which is resistant to spalling and mushrooming. One or two lines of type in any size character can be specified with the new holder.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7109 if you write the maker

UNIVERSAL INDUSTRIAL CONVEYOR

Low First Cost . . . .
Low Maintenance

- Removable sides to permit handling large cartons or parts.
- Motor totally enclosed inside conveyor body easily accessible through removable ventilating panel.
- Elevates to desired height with simple hoisting mechanism.
- Driven by means of roller chain to roller bearing equipped gear box.
- Main drive shaft and idler pulley operate on double-sealed ball bearing.
- Standard belt width, 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M.—adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

BREVITY—Identify by IEN - 7110 if you write the maker

FASTER . . . MORE EFFECTIVE FIRE CONTROL

WITH THE ANSUL *Stream Pattern*

PATENT PENDING

plus

BETTER HEAT-SHIELD PROTECTION

why **Advertise the Nozzle! . . .**

. . . because the *nozzle* on your ANSUL Dry Chemical Fire Extinguisher is *water-tight* . . . it *won't* become inoperative due to corrosion or caking of dry chemical within the working parts . . . the most inexperienced man in your plant *can use the ANSUL extinguisher effectively . . . and only Ansul has a nozzle* to meet all of these requirements!

If your hazards require special long range straight stream nozzles, you can get Ansul Extinguishers equipped with these nozzles at no extra cost. With Ansul Dry Chemical Fire Extinguishing Equipment you have not only the best fire protection but also a choice of models and designs to meet your requirements.

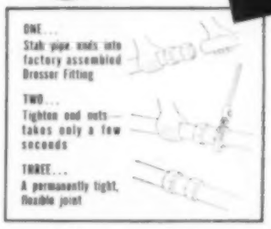
EXCLUSIVE FEATURES: Water-tight construction • Provides a modified cone-shaped stream pattern without hole in the center of the stream • Each nozzle gas pressure tested after assembly • Special spring loaded packing to insure lasting water-tightness. • Designed for use by inexperienced operators. • Low velocity, more effective stream of dry chemical.

Send for File No. 648. You will receive our catalog, a Periodic Inspection Record Chart, "Fundamentals of Fire Extinguishment" and information about Ansul Dry Chemical Piped Systems for automatic protection.

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION • MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

BREVITY—Identify by IEN - 7111 if you write the maker

Speed pipe joining with *this*



There's no easier way to joint pipe than with Dresser Style 65 Fittings. And they stay tight despite vibration and deflection. No threading to weaken pipe wall. Sizes ⅝" to 2" pipe diameter. Write for STYLE 65 CATALOG.

Complete line of tees, elbows, adaptors, branch tees, etc.

DRESSER "NO-THREAD" FITTINGS

Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa. (One of the Dresser Industries). Sales Offices: New York, Philadelphia, Chicago, Houston, South San Francisco.

BREVITY—Identify by IEN - 7112 if you write the maker

SHENANGO Centrifugal CASTINGS ... KEY TO SAVINGS

How to save time and money on symmetrical parts!

FIRST, such parts are produced by Shenango's advanced centrifugal casting process. This means *tougher* parts because of finer, pressure-dense grain, greater strength, better elongation and freedom from sand inclusions, blow holes and other often hidden defects. It also means less waste, less machining.

Second, Shenango has the modern machining facilities and skilled workmanship to give you semi-machined or finished parts...precisely as specified...at minimum cost! The heavy trunnion bearing shown above is one of the many types of parts, large and small, ferrous and non-ferrous, regularly produced at Shenango.

SEND FOR FREE BULLETINS

Bulletin No. 150 covers non-ferrous centrifugally cast parts; Bulletin No. 151 for parts of Meehanite Metal and Ni-Resist.

SHENANGO-PENN MOLD COMPANY
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL

BREVITY—Identify by IEN - 7113 if you write the maker

all SEVEN done on... ONE KLING COMBINATION SHEAR, PUNCH AND COPER

Here are just seven of the many operations performed in one typical shop on one Kling combination Shear, Punch and Coper. If you do heavy metal fabricating work ... volume production or an occasional maintenance job ... you'll find many other ways this machine can save you money.

For example one Kling Machine in your shop can turn out the work of a separate punch, angle shear, bar shear, plate shear, or notcher. Each tool operates independently of the other for faster, safer operation. And you get all this multiple machine production for only a few dollars more than the cost of a single-purpose punch. Available in three sizes.

FREE BULLETIN. *Find out how this one machine can save money in your shop. Write for Bulletin 14 packed with complete data and specifications.*

Kling Bros. Engineering Works Kamerling & Kostner Streets, Chicago 51, Illinois.

Kling ...an investment in speed!

MANUFACTURERS OF Combination Shear, Punch & Copers • Double Angle Shears • Rotary Shears • Punches • Plate Bending Rolls

BREVITY—Identify by IEN - 7114 if you write the maker

Even unskilled operators can speed cutting time with a WALKER-TURNER 16" BAND SAW

To meet today's demand for accurate and faster production, put the new Walker-Turner 16" Band Saw to work in your shop. Any operator, even unskilled labor, can quickly learn to handle these metal and woodworking machines. Built to simplify cutting operations, they're *fast, accurate, safe, easy to handle.*

The automatic Power Feed, a patented Walker-Turner feature, insures protection against overloading the blade—maintains a pre-set feeding pressure for sharper cutting—affords longer blade life.

Find out more about this practical way to increase output while reducing production costs.

Ask your distributor for full information about this and other Walker-Turner Power Tools for metal, plastic and woodworking operations. Or mail coupon today for complete catalog.

SOLD ONLY THROUGH AUTHORIZED DEALERS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • JOINTERS
TABLE SAWS • BAND SAWS
BELT and DISC SURFACERS
JIG SAWS • RADIAL SAWS
LATHES • TILTING ARBOR SAWS

Walker-Turner Division, Kearney & Trecker Corp.
Dept. IE4, Plainfield, N. J.
Please send me the new Walker-Turner Machine Catalog.

Name .....
Title .....
Company .....
Address .....
City ..... Zone ..... State .....

BREVITY—Identify by IEN - 7116 if you write the maker

TRUCK . . Hand lift platform unit with hand hydraulic pump and release

Source: MARKET FORCE CO.
23-27 Garvey St., Everett 49, Mass.

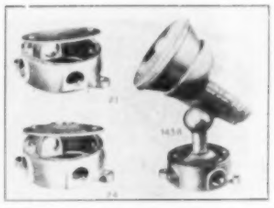
New pump, lever-operated hydraulic design, has been developed for application on the company's Lightning Load-Lift elevating platform truck. It provides for quick load elevation through a 3-in. vertical movement and quick release to return the load platform downward. Both movements are controlled at the pump lever. Lateral reciprocation through an 18½-in. stroke is for the lift movement. A short forward action releases the oil from the pressure system so it can flow back to the reservoir above the pump and permit the platform to descend. The pump is standard equipment on the 1951 line of trucks. It is available for field application on previously built units in the line.

The truck is made in 3,000 and 5,000-lb. capacity with platforms 18 and 24 in. in width and lowered height at 6, 7, 9 or 11 inches. Six platform lengths range from 36 to 72 in. on wheel bases measuring 38 to 74 inches. Rolled-steel, cushion-rubber, or plastic wheels can be specified. Each design includes ball bearings. Steering action is also on ball bearings.

BREVITY—Identify by IEN - 7117 if you write the maker

CONDUIT FITTING . . Junction box made of aluminum for outdoor use

Source: STONE MFG. CO.
487-91 Henry St., Elizabeth 4, N. J.



New box is fitted with four ½-in. pipe-threaded hubs. It has mounting legs or is in plain design to assemble on walls as in property-line lighting. The unit will support flood-lighting fixtures between buildings to illuminate yards, load platforms, storage areas. A flat aluminum cover plate, sealed with a cork gasket, is interchangeable with a cast aluminum cover, also fitted with a ½-in. pipe thread. The cover takes standard lamp holders for 150, 200 and 300-watt outdoor fixtures.

BREVITY—Identify by IEN - 7118 if you write the maker

PROTECTING . . Sound color film describes reasons for wearing safety shoes

Hy-Test Division
1507-11 Washington Ave., St. Louis 3, Mo.

"One Ounce of Safety" is title of new 16-mm. color sound motion picture which the company offers for group showing. It stresses the importance of avoiding foot injuries and the part safety shoes can play. Showing time is about 25 minutes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7119 if you write the maker

CANNON PLUGS

. . . standard components on fine electrical and electronic equipment. After *33 years* of building electrical specialties, Cannon Electric continues to pioneer new and better types of connectors, maintaining its reputation for progress and development. In the 13 *major type series* of connectors will be found most of the requirements for quick disconnection of electrical circuits. For a survey of the general line, write for *Condensed Catalog.*

UA SERIES
(Ultimate Audio Connectors)
THREE 15-AMP. CONTACTS

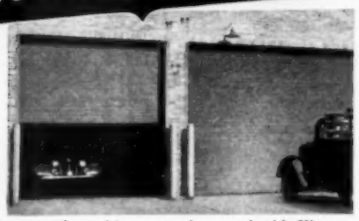
Latest development in the connector phase of audio engineering is the new series of microphone and sound circuit connectors designed and built by Cannon Electric to RMA Committee requirements and standards. Briefly, following features should be noted: (1) *Safety latchlock* (2) *Shockproof* (3) *FULL-Floating Socket Contacts* (4) *Splashproof* (5) *Steel plug shells* (6) *Rubber sleeve for cable relief* (7) *Grounding Contact* (8) *Gold plated 15-amp. contacts for low loss.*

Address Cannon Electric Company, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif. Factories in Los Angeles, New Haven and Toronto. Export: Frazar and Hansen, San Francisco. Representatives in principal cities.

SINCE 1915
CANNON ELECTRIC

BREVITY—Identify by IEN - 7120 if you write the maker

Fit the closure to the opening with KINNEAR Rolling Doors



ANY SIZE FOR ANY BUILDING

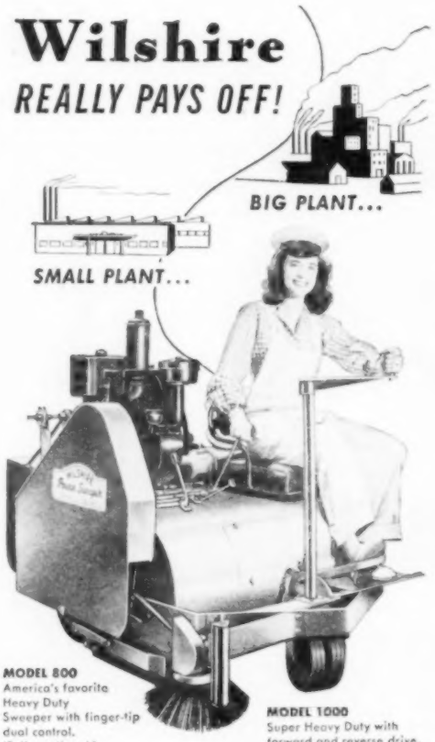
You can be sure of matching every door need with Kinnear Rolling Doors. These interlocking steel-slat doors of coiling upward action are built to any specified opening size. Write.

The KINNEAR Manufacturing Company
Factories: 2380-2400 Fields Ave., Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, California
Offices and Agents in Principal Cities

Saving Ways in Doorways
KINNEAR ROLLING DOORS

BREVITY—Identify by IEN - 7121 if you write the maker

Wilshire *REALLY PAYS OFF!*



MODEL 800
America's favorite Heavy Duty Sweeper with finger-tip dual control. (Sulky optional.)

MODEL 1000
Super Heavy Duty with forward and reverse drive, 100% visibilty. Gutter Brush optional at extra cost.

CUTS Your SWEEPING COSTS 75%!

INSIDE! OUTSIDE! ALL AROUND ANY PLANT! The WILSHIRE Power Sweeper is a one-man gang that picks up everything from cigarette butts to pop bottles in one easy operation—does it so efficiently that America's best known plants report reductions in cleanup costs of 75% *and more!* But don't take our word—or the word of well-known users—instead, have a free demonstration on your job—prove to yourself that WILSHIRE Power Sweeper does it better, faster!

FACTORY TESTED...90-DAY GUARANTEE

For dealer nearest you write Dept. F-7.

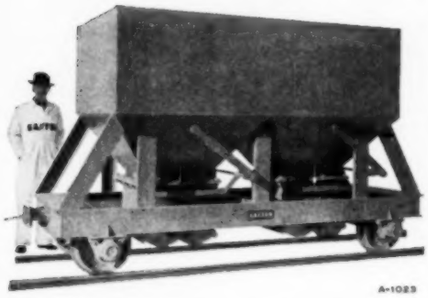
Wilshire
POWER SWEEPER CO.
326 W. Chevy Chase Drive
Glendale 4, Calif.

SWEEPING THE COUNTRY SINCE 1940

BREVITY—Identify by IEN - 7123 if you write the maker

EASTON

a dependable design and construction service in industrial cars



A-1023

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.
NEW YORK • PHILADELPHIA • PITTSBURGH

BREVITY—Identify by IEN - 7124 if you write the maker

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

BREVITY—Identify by IEN - 7126 if you write the maker

SIGNALING . . Electric bell, vibrator operated, has no contacts

Source: SIGNAL ENGINEERING & MFG. CO.
154 W. 14th St., 11th Floor, New York 11, N. Y.

Diameter is 2½ or 3 in. for this new vibrator-operated electric bell. Standard operation is on 115-volt 60-cycle ac. with other ac. voltages to specification. The unit shown in the illustration is one of three designs. It employs an enclosed back with an adapter plate to mount on a 4-in. round or octagonal box or on a single gang switch box. A second design is open back for simple bracket mounting on a strap or chassis. The third design has an enclosed back with terminal blocks for screw connection and for bell mounting from the back with two screws. The bell will operate in any position.

BREVITY—Identify by IEN - 7127 if you write the maker

INSULATING . . Vinyl plastic tape for application on electrical equipment

Source: INDUSTRIAL TAPE CORP.
Highway One, New Brunswick, N. J.

Resistant to oils, acids, grease, gasoline

Permacel 29 is a new electric insulating tape, approved by Underwriters' Laboratories, Inc., for general use on electrical equipment. It is characterized by its 7-mil thickness, its 200 per cent of elongation, its insulating resistance of 88,000 megohms at 91 per cent relative humidity or 67,000 megohms at 96 per cent. Its backing is a black vinyl film in 6-mil thickness. The tape is designed to replace the combination of rubber tape and friction tape in wire splicing.

Other uses include moisture sealing for headlights and spotlights, protecting generator wiring, brake cables, tool handles, binding wire harnesses, prolonging the life of power cables that are dragged along the ground.

BREVITY—Identify by IEN - 7128 if you write the maker

ELEVATOR . . Portable hydraulic table, 3 to 5 ton, 18 in. vertical movement

Source: LYON-RAYMOND CORP.
35-81 Madison St., Greene, N. Y.

Four cylinders operate with scissors-type side members to raise and lower the 66-in. table top in this new portable elevator from 18 to 36 in. above the floor. Pressure is supplied by a foot-operated or motor-driven hydraulic pumping unit that is available with pushbutton or pedal-type control. The pump mounts separately on the floor. The unit is intended particularly to handle metal sheet for feed into a press.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7129 if you write the maker

industrial OIL AND GAS BURNING EQUIPMENT

- Mechanical Atomizing Oil Burners
- Steam Atomizing Oil Burners
- Refractory Burner and Muffle Blocks
- Industrial Gas Burners
- Low Air Pressure Oil Burners
- Fuel Oil Pump Sets
- Valves, Strainers, Furnace Windows
- Tandem Block Combustion Units
- Combination Gas and Oil Burners

Detailed information gladly sent you upon request.

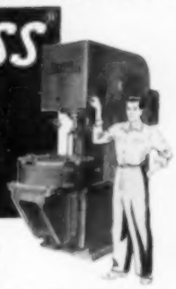
NATIONAL AIROIL BURNER COMPANY, INC.

1281 EAST SEDGLEY AVENUE, PHILADELPHIA 34, PA.
Southwestern Division: 2512 SOUTH BOULEVARD, HOUSTON 6, TEXAS

BREVITY—Identify by IEN - 7130 if you write the maker

On Hundreds of Production Jobs . . .

MULTIPRESS DOES IT BETTER, FASTER, and at LOWER COST

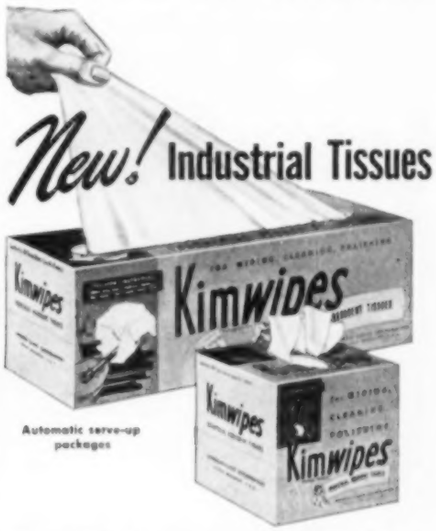


The work-speeding advantages of Multipress have been proved on a wide range of production jobs. With smooth, positive accuracy and fully regulative oil-hydraulic action, it saves time, increases safety, cuts rejects, and is quickly adaptable to changing needs. Eight frame sizes, with capacities from 1 to 50 tons, offer the ram stroke, ram speed and tonnage that meet your specific needs, with a choice of manual or automatic controls. Standard Multipress Index Tables, Dial Feed Tables, and a Harmonic Stock Feed are available for added production speed. Many other Multipress attachments for special operations. Tooling designed and built for almost any need. Write for details on Multipress and how *you* can use it.

The DENISON Engineering Co.
1150 Dublin Road
Columbus 16, Ohio

DENISON Hydr.OIL ics

BREVITY—Identify by IEN - 7131 if you write the maker



Automatic serve-up packages

For Wiping and Polishing

Wiping precision instruments

Let clean, *disposable* KIMWIPES* industrial wiping tissues standardize—and economize—your cleaning operation. Soft, yet strong, they're ideal for cleaning precision tools and instruments. Recommended for use on finely finished surfaces. And highly absorbent KIMWIPES remove dust, dirt, grease and oil—quickly, safely.

Polishing machined parts

The Bureau of Federal Supply stocks Kimwipes size 15" x 18" in all Supply Centers under stock item #53P23131-000.

Kimwipes
INDUSTRIAL WIPING TISSUES

*T. M. REG. U. S. PAT. OFF. & CAN.

KIMBERLY-CLARK CORPORATION, IEN-751
Neenah, Wisconsin
Please send me Kimwipes literature and sample.

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Firm Name.....
Address.....
City..... Zone..... State.....

BREVITY—Identify by IEN - 7133 if you write the maker

BETTER LIGHT *for* BIGGER PRODUCTION

Fewer rejections . . . greater safety . . . better employee relations . . . increased efficiency to meet defense demands—these are the immediate returns on your investment in good industrial lighting.

Appleton Lighting Fixtures are made to suit every industrial requirement—including hazardous locations—whether indoors or out. For the finest illuminating equipment or expert assistance on any lighting problem, contact Appleton—Standard for Better Lighting.

APPLETON LIGHTING EQUIPMENT

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY

1716 Wellington Avenue • Chicago 13, Illinois

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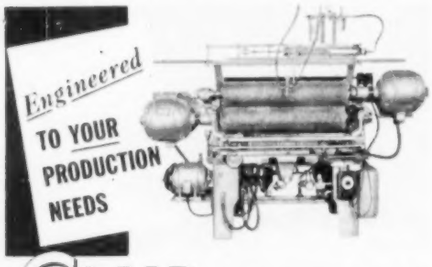
CONDUIT FITTINGS • OUTLET AND SWITCH BOXES • EXPLOSION PROOF FITTINGS • RECEPTACLES

BREVITY—Identify by IEN - 7134 if you write the maker



Engineered TO YOUR PRODUCTION NEEDS

CLAIR SURFACE FINISHING MACHINES

For Surface Finishing: screw drivers, chisels, pliers, saws, wrenches, compacts, cigarette cases, fine silver, surgical instruments, fan blades, flat iron sole plates, many other similar items

Working closely with your engineers we will develop a custom machine designed for maximum surface finishing efficiency on your particular application. Totally enclosed, abrasion-proof hydraulic circuits assure uninterrupted production and vastly reduced maintenance costs.

CLAIR MANUFACTURING CO., INC.

Specialized Machine Equipment For Glazing and Polishing Operations

OLEAN, N. Y.

BREVITY—Identify by IEN - 7135 if you write the maker

Here's your Best Buy in PORTABLE BELT BOOSTERS

ADJUSTABLE • REVERSIBLE • COMPACT • ECONOMICAL

STYL-O-VEYOR SR.

Portable units to help speed up loading and unloading of freight cars, trucks, etc., stacking of cases, conveying from one level to another. Two models are available—the heavy duty Senior, and the light duty Junior.

STYL-O-VEYOR JR.

Styl-O-Veyors are universal conveyors, capable of being fed or discharged from either end. The angle of height is quickly adjustable by hydraulic power and hand winches within.

MAIL THIS COUPON FOR FULL DETAILS

FREE!

ISLAND EQUIPMENT CORP.
27-01 Bridge Plaza North
Long Island City 1, N. Y. Dept. IEN-7

Please send Bulletin HP20-2A on Styl-O-Veyor Portable Belt Boosters.

NAME _____

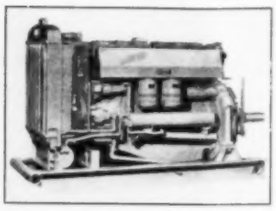
ADDRESS _____

CITY _____ STATE _____

BREVITY—Identify by IEN - 7136 if you write the maker

ENGINES . . Six cylinder diesels, standard and supercharged assemblies

Source: MURPHY DIESEL CO.
5315-19 W. Burnham St., Milwaukee 14, Wis.



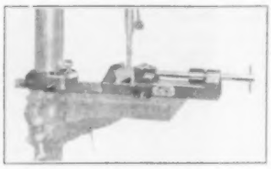
Overall rating is 145 to 205 hp. on continuous duty at 1,400 rpm. for three new six-cylinder engines in the company's diesel line. Three in a Series 220 are standard assemblies rating 145 to 175 hp. The other three, in a Series 320, add turbo superchargers and rate 155 to 205 hp. on continuous duty. All are available on skid mountings with base dimensions for the bare engines at approximately 175 by 43 inches.

Assembly includes the company's design of unit fuel injectors combining the fuel pump, metering control, and spray nozzle into single units, one per cylinder. Four alloy-steel overhead valves are located symmetrically around each injector. Speed is controlled by the company's Servo-type governor which will open the throttle in response to load demand at reduced engine speed. Electric starting equipment includes a 24-volt motor and ring gear on the fly wheel with a manually-operated engagement and a circuit switch. A generator and voltage regulator are included.

BREVITY—Identify by IEN - 7137 if you write the maker

VISE . . Quick acting design swivels adjustably on a drill column

Source: UNIVERSAL VISE & TOOL CO.
Frank St., Parma, Mich.



New design of the company's Col-Vise, previously described IEN-574-50, now employs a centrally-located bar secured to the column-clamp adaptor to slide in a tube in the vise base, in place of the side-mounting rectangular bar shown in the illustration. The vise is available in openings to 4 and to 6 in. with jaw measurements at 4 in. in width and 1½ in. in height. Base to the top in both cases is 3 inches. Seven sizes of adaptor are available for attachment to a drilling machine column. List price without the adaptors is $29.50 and $32.50 for the 4 and 6-in units.

BREVITY—Identify by IEN - 7138 if you write the maker

SAFETY . . On the highway, booklet uses cartoon pictures to stress its points

Travelers Insurance Companies
702 Main St., Hartford 3, Conn.

"R. I. P.", meaning Rest in Pieces, titles 1951 edition of the company's booklet of facts and figures on highway accidents during 1950. The 32-page booklet tabulates figures on types of accidents, age groups involved, other factors. Cartoon-style illustrations point up reasons for the booklet's title.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7139 if you write the maker

You are SURE of instant, unfailing safeguards when you install EVERLASTING VALVES with Pendulum Stop on your fire protection system. The valve action is immediate and positive . . . the flow is full and unimpeded . . . there's no danger of sticking, binding or wedging. Made in all sizes from 1 in. to 8 in. and may be arranged for control from any location. Write for Bulletin E-52C describing these valves in detail.

EVERLASTING VALVE CO., 49 Fisk St., Jersey City 5, N. J.

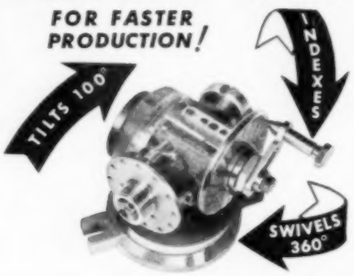
Trade-Mark "EVERLASTING"—Reg. U. S. Pat. Off.

Everlasting Valves FOR EVERLASTING PROTECTION

BREVITY—Identify by IEN - 7140 if you write the maker

THE *unusual* ELLIS DIVIDING HEAD

FOR FASTER PRODUCTION!



"Versatile" is the word for the unusual Ellis Dividing Head. This beautifully designed and built unit can extend the profit and production possibilities of your mills, grinders, drill presses and jig borers. It has 6½" swing, or 11" swing when used with riser blocks. Its fully universal action provides every needed setting, so that most work can be completed without rehandling. Work may be held between centers, or in chucks or collets. Write for catalog giving complete details!

NICHOLS-MORRIS CORPORATION

50-W CHURCH STREET, NEW YORK 7, N. Y.

BREVITY—Identify by IEN - 7141 if you write the maker

Protect As You Project *Delicate Precision Parts*

PACKAGE in *Clearsite* Plastic Selling Containers

Drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others can be packaged for perfect visibility and the utmost in protection in the container that's featherlight (¼ the weight of glass) • shatterproof • flexible or rigid • permanently printed • clear or opaque in all colors • eventually a re-use container.

Write for your FREE copy of the new, fully illustrated brochure that points up the many uses and advantages of Clearsite Plastic SELLING Containers.

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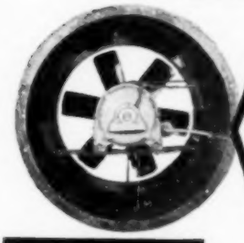
ESTABLISHED 1919

BREVITY—Identify by IEN - 7143 if you write the maker

PLACE YOUR VENTILATING PROBLEM IN OUR HANDS

TUBEAXIAL FANS by ROBINSON



Will Solve Your Ventilating Problem!

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ZELIENOPLE, PENNA.

Efficiently handles large volumes of air at moderate pressures...unusually well adapted for exhausting smoke, fumes, light dust, etc. from hoods or sandblasting booths and spray booths.

End flanges provide convenient installation in duct systems...direct drive...or V-belt...your operation conditions dictate the type and size.

ASK FOR BULLETIN NO. 6001

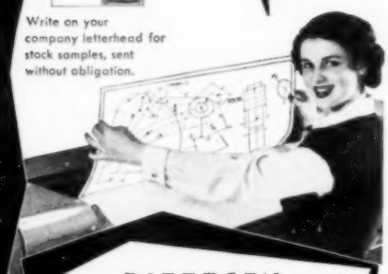
MAKERS OF FANS AND VENTILATING EQUIPMENT FOR FIFTY YEARS

BREVITY—Identify by IEN - 7144 if you write the maker

COMPARE THE RESULTS you can get from these FREE samples of amazing DRIPRINT paper!

SAMPLES

Write on your company letterhead for stock samples, sent without obligation.



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Better, ready-to-use direct positive prints are yours in seconds with DRIPRINT

Whether you want prints with black, blue, red or sepia lines, you'll get better results with DRIPRINT. Made directly from your translucent original without a negative, these superior Dietzgen ammonia-process prints on paper or cloth give you denser, sharper lines on pure white backgrounds every time.

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You can draw or write on DRIPRINT with pen, pencil or water color; and print lines can be removed instantly with DRIPRINT Eradicator Fluid. So notations, additions, alterations are easily made. Try DRIPRINT.

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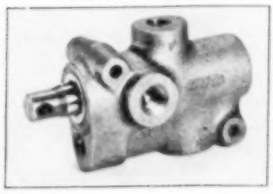
DIETZGEN EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

BREVITY—Identify by IEN - 7146 if you write the maker

VALVE . . Three way hydraulic for power cylinder control to 2,000 lb.

Source: PARKER APPLIANCE CO. 17323-27 Euclid Ave., Cleveland 12, Ohio



Pressure is admitted to power cylinders for operation of equipment mechanisms. It is held in the cylinder and is released to return by operating a control lever connecting to this new three-way hydraulic valve. It is open-center spool design with ⅜-in. pipe-threaded ports for pressure inlet and cylinder connection in standard construction, ¼ or ½ in. to specification. The return port is threaded for ⅜-in. pipe. Maximum recommended flow is 14 gpm. Pressure drop through the open center is about 10 lb. at maximum rated flow.

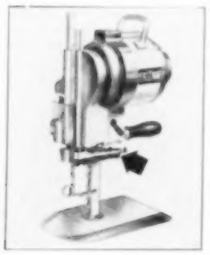
The spool is pushed forward into the valve body to connect the pressure and cylinder ports and to shut off the return. It is moved back part way to place the spool in central or neutral position where the cylinder port is closed to hold hydraulic fluid while the pressure port is open to return for free circulation of the fluid from the hydraulic pump supplying pressure.

In full-out position the cylinder and pressure ports are both open to return to release pressure from the cylinder and permit the piston to return to starting position. Construction includes a built-in relief valve capable of handling 14 gpm. Moving parts are hardened steel. The spool seals are standard lip-type gaskets.

BREVITY—Identify by IEN - 7147 if you write the maker

CUTTING . . Portable knife machine for fabrics, plastics, cotton, rubber

Source: EASTMAN MACHINE CO. 777-81 Washington St., Buffalo 3, N. Y.



Blue Streak trade names new design in the company's line of portable motor-driven reciprocating-knife machines to cut a straight or irregular outline in multiple layers of fabrics, coated materials, canvas, knit goods, plastic, rubber, cotton wadding. The machine is available for operation on 1,800 or 3,600 rpm. at specified voltage and ac. or dc. input. Two motor sizes rate ½ and ¾ hp. Weights are 28 and 33½ pounds. Overall height ranges from 17 to 23 inches. Front to back measures 11 in. and width is 7 inches.

A belt-type sharpening attachment is mounted at the front of the housing to apply an endless abrasive belt on each side of the knife blade. Operating a control causes the belts to move down the length of the blade and back up again, while they are rotating over their sheaves, to renew the blade edge. The belts can be changed quickly and at negligible cost when they have worn out. The machine is base-mounted in rubber to minimize vibration. The base itself is low design to slide in under the work being cut.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7148 if you write the maker

MAN SAVER

Sweeps up to 400% faster than costly pushbroom cleaning . . . saves money . . . saves manpower

A Parker Floor Sweeper saved $2100 a year for a food manufacturer — $520 a year for a lumber yard—75% of all sweeping costs for a building material manufacturer. *You, too, can save.*

Sweeps all type floors. Collects and sweeps in one operation. Easy to empty. A money-saver for any plant from small garage to large factory or warehouse.

Now available — information file containing time studies, case histories, and full details. *Write, wire, or telephone today.*

FACT FILE AVAILABLE

PARKER INDUSTRIAL FLOOR SWEEPER

PARKER SWEEPER CO., 31 Bechtle Ave., Springfield, Ohio

BREVITY—Identify by IEN - 7149 if you write the maker

Fast, Uniform Drying Can be Simple as This

INSIDE VIEW of dielectric drying oven shows simplicity of dielectric drying. Simply place units to be dried on moving conveyor. Units pass between electrodes and in a matter of minutes come out completely dried — never burned.

Dryers like this save time, fuel, space, and often provide better quality because drying is always uniform.

Get engineering and cost studies from your nearby Allis-Chalmers Sales Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3357

ALLIS-CHALMERS

BREVITY—Identify by IEN - 7150 if you write the maker

Would You Repeat That Please?

Getting a repeat order is just about the most tangible evidence of confidence a customer can give you. It pretty well proves he likes what you gave him.

Take our business. We're quite happy about the fact that over the last half century the great bulk of our business has been *repeat* business—from customers who have confidence in our ability to give them the kind of gears they want. Whether you need a small gear, from our stock of 45,000 patterns, or whether your requirements demand a large special gear designed by our engineers, we'd be delighted to add your name to that special group of people who say to us: Would you repeat our last order please? THE EARLE GEAR & MACHINE CO., 4707 Stenton Ave., Philadelphia 44, Pa.

EARLE GEARS

It's good business to do business with EARLE

BREVITY—Identify by IEN - 7151 if you write the maker

FOR SPEEDY INSTALLATION . . . WITH MINIMUM INTERRUPTION OF WORK . . . . .

Count On CLOW (Threaded)* CAST IRON PIPE

WHEN YOU REPLACE OR EXPAND. Leading engineering firms specify Clow Threaded Cast Iron Pipe for downspouts, waste and vent lines because of its corrosion-proof qualities and lifetime service.

Clow Threaded Cast Iron Pipe can be cut and threaded on the job with ordinary tools of the piping trade. Available with plain or threaded ends in 3, 4, 5, 6, 8 and 10" sizes in 18' lengths. Also furnished with integral calking hub on one end (other end plain) in 4, 6 and 8" sizes.

Write for Form 4-26-50 to: JAMES B. CLOW & SONS, 201-299 N. Talman Ave., Chicago 80, Illinois.

*Has the same outside diameter as steel or G. W. I. pipe

JAMES B. CLOW & SONS

Wholesale Distributors of Pipe, Valves and Fittings for Industrial Use

BREVITY—Identify by IEN - 7152 if you write the maker

FOR THESE *Extras*

LONGER SERVICE

LESS MAINTENANCE

HIGHER PERFORMANCE

use STAINLESS STEEL

FLOATS

YOU can solve virtually all your float problems by standardizing on Stainless Steel Floats from Chicago Float Works. You get longer service and less maintenance because Stainless Steel Floats resist corrosion and withstand high temperatures and pressures. Extreme strength insures them against collapsing and they always respond perfectly to level fluctuations because of permanently high buoyancy. Install our high quality Stainless Steel Floats and be sure of long, dependable operation!

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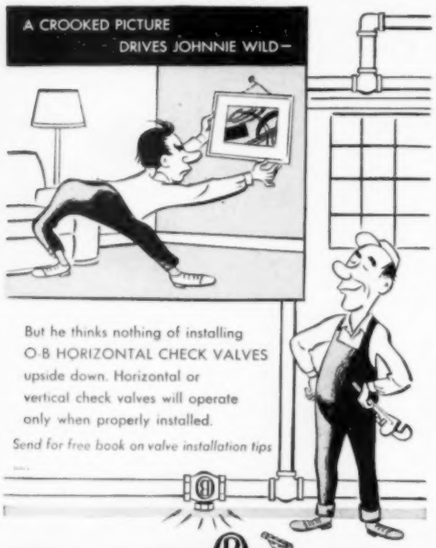
CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

BREVITY—Identify by IEN - 7153 if you write the maker



But he thinks nothing of installing O-B HORIZONTAL CHECK VALVES upside down. Horizontal or vertical check valves will operate only when properly installed.

Send for free book on valve installation tips

Ohio Brass VALVES
MANSFIELD . . . . . OHIO

BREVITY—Identify by IEN - 7154 if you write the maker

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electron tubes for industry

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- Vacuum Power
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- Vacuum & Gas Rectifiers
- Ignitrons
- Cold-Cathode
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Quick, Expert Service on all RCA special-purpose industrial tubes

ALLIED maintains in stock *for quick shipment*, the world's largest distributor inventory of RCA special-purpose tubes . . . *of all types*. We specialize in supplying the needs of industrial, broadcast, governmental and other users. To save time, effort and money, phone, wire or write to ALLIED for *quick* shipment. Fill *all* your needs from the *complete, dependable* electronic supply source.

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Valuable guide to selection of proper RCA tube type replacements. Lists 1600 tube types. Write for FREE RCA Guide No. 37-046.

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Everything in Electronics from ONE Source

BREVITY—Identify by IEN - 7155 if you write the maker

STORING . . Petroleum products tank employs center weighted floating roof

Source: GRAVER TANK & MFG. CO.
4811 Tod Ave., East Chicago, Ind.

New roof design that floats on the liquid in a storage tank and thus eliminates vapor space above the liquid has been developed in two types for petroleum product storage. One employs a pontoon assembly around the outer rim for climates where snow, ice and rain will fall. This design is available in diameters from 6 to 160 feet. The second eliminates the pontoon, is intended for climates where rain only is likely. It is built in diameters from 30 to 120 feet.

Both designs are weighted at the center to depress this part of the roof and bring the center of buoyancy below the center of gravity. A connection at the center leads out through jointed pipe or a hose so water can drain to the outside of the tank. Pipe guide posts are provided at intervals. Space between the roof and the tank wall is sealed by a steel shoe flexibly connected to the roof by an impervious fabric and held outward by a series of hangers and pushers. There are no springs in the assembly.

Bulletin, 12 pages, "Center-Weighted Floating Roof Tanks," illustrates construction, describes features, design data.

BREVITY—Identify by IEN - 7156 if you write the maker

SANDING . . Rotating head carries brush backed abrasive strips

Source: MERIT PRODUCTS INC.
4021-25 Irving Place, Culver City, Calif.

Eight strips of abrasive cloth, each 1 in. in width, are coiled upon a central spool in this new Model 350-R Sand-O-Flex head. Each strip is backed by a brush secured in the head. The brushes force the strips into depressions and permit them to retract over projections to produce a uniform finish on irregular surfaces. Additional length of strip is brought out and worn ends are cut off to renew the sanding action. Overall diameter is 5½ inches. List price is about $12.

BREVITY—Identify by IEN - 7157 if you write the maker

RUBBER . . Sound motion picture describes rubber production, manufacture, uses

U. S. Rubber Co.
1230-32 Sixth Ave., New York 20, N. Y.

New 16-mm. film is available on loan to acquaint employee meetings and similar groups with basic information on rubber such as production of natural and synthetic rubber, rubber product manufacture, applications. Title is "Speaking of Rubber." Time is 27 minutes. A descriptive folder is available.

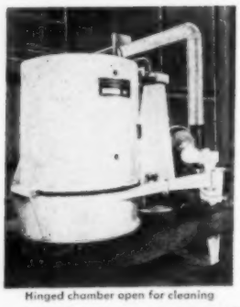
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7158 if you write the maker

The Bowen Laboratory Spray Dryer

...MEETS ALL REQUIREMENTS FOR:

SMALL LOT PRODUCTION & LABORATORY RESEARCH



Hinged chamber open for cleaning

The Table Model is "scaled-down" from Bowen commercial spray dryers. The unit can be used for actual small lot production of valuable materials or for test work where data obtained is used for design of production units.

1. EASY TO CLEAN—Hinged chamber can be opened for washing or brushing. All ducts are flanged and fastened by quick-opening wing nuts to make cleaning easy.

2. SIMPLE TO OPERATE—Engineered for ease of operation—air temperatures are controlled automatically. Requires space of only 3' x 6'.

Observation of product formation

BOWEN ENGINEERING, INC.
NORTH BRANCH 10
NEW JERSEY

Since 1926 Recognized Leaders in Spray Dryer Engineering

BREVITY—Identify by IEN - 7159 if you write the maker

SAFETYMIX

EXTRA SHOWER SAFETY . . . at no extra cost

PROTECTS AGAINST SUDDEN SCALDS

. . . Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT

. . . Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE

. . . The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but *one* moving part to control *all* valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE

. . . Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

100,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, colleges, industrial plants, hotels, clubs, hospitals, apartments and homes.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

BREVITY—Identify by IEN - 7160 if you write the maker

THE VALVE THAT WAS DESIGNED FOR

PETROLEUM CHEMICAL SERVICE

THE

Cameron

NON-LUBRICATED

LIFT-PLUG VALVE

Originally designed for acid and light hydrocarbon service and first tested and proved in one of the nation's largest wartime alkylation units, the Cameron valve has since distinguished itself in all sorts of difficult petro-chemical services—chlorine, caustic, ammonia, gas distillate, ethylene oxide, butane, propane, molten sodium, oilfield and others.

The Cameron Non-Lubricated Lift Plug Valve combines the best features of gate and plug valves with a number of new mechanical innovations. Test it in your most difficult service. See for yourself how easily it operates and how tightly it seals, yet it requires no lubrication. Consequently the possibility of product contamination and clogging of metering equipment is eliminated. No periodic maintenance. No lubrication expense.

A descriptive booklet will gladly be sent to interested operators on request.

1 LIFT-PLUG ACTUATOR lifts, turns and reseats plug in only three-quarters of a turn of the operating wrench.

2 SEPARATE, RENEWABLE SEAT: Pressure-created body deflections and line strains cannot destroy the geometry of the fit between sealing surfaces because they cannot be transmitted to the separate seat.

Cameron IRON WORKS, INC.
P. O. Box 1212 Houston, Texas
Export: 74 Trinity Place, New York, N. Y.

BREVITY—Identify by IEN - 7162 if you write the maker

ALL PEERLESS MOTORS ARE "Peerless Registered"

MORE than 90% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U.S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor—anywhere.

THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

Peerless-Electric MOTORS·FANS·BLOWERS

BREVITY—Identify by IEN - 7163 if you write the maker

NEW BUDA 2000 LB FORK LIFT TRUCKS

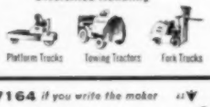
Shorter length, Narrower Width
★
Shorter Turning Radius
★
Quick Change Clutch
★
Easier Operating Single Lever Gearshift

Fast, powerful, compact, maneuverable, ruggedly built, Buda 2000 lb. Fork Trucks are the most modern trucks made. Designed by top-flight materials handling engineers, they incorporate the latest improvements in safety, comfort and operating advantages.

Available in 24" and 15" load centers, offering 9 to 23% more load carrying capacity. Write for Bulletin 1544 and full data. *The Buda Company, Harvey, Illinois.*

BUDA *The line with ALL 3 for Diversified Handling* BH-23

Manufacturers of Diesel and Gasoline Engines, Maintenance of Way Products, Lifting Jacks, Earth Drills and Material Handling Equipment



BREVITY—Identify by IEN - 7164 if you write the maker

Widen the Range of your Plant Cleaning

2 NEW Sizes! HOFFCO-VAC Heavy-Duty, Portable VACUUM CLEANERS

Bigger Capacity and Higher Vacuum for Cleaning Larger Areas of Walls, Floors and Overhead Surfaces at Lower Cost!

Hoffco-Vac 15 Operates 35-foot length of hose.

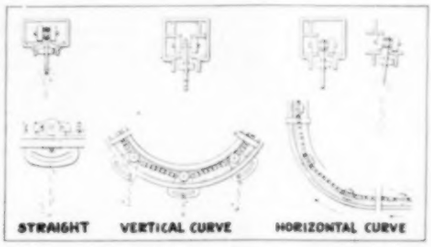
Hoffco-Vac 30 Operates 50-foot length of hose.

AIR APPLIANCE DIVISION **U.S. HOFFMAN** MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

BREVITY—Identify by IEN - 7165 if you write the maker

CONVEYING . . Overhead chain in closed circuit, suspends the work

Source: SHULER CONVEYORS INC.
41 Hutcheson Place, Lynbrook, N. Y.



Horizontal curves, sharp dips downward and back up again, straight runs can all be included in a closed-circuit installation of this new Econ-O-Veyor. It is recommended for light to medium loading with trolleys placed on 12½-in. centers and connected by short sections of chain. Each trolley has two load wheels to ride on inverted T-sections and a single wheel at right angles to ride between the downward facing legs of these sections.

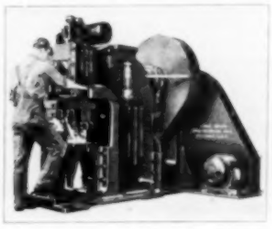
A third T-section is positioned above the outside of the load wheels in the track enclosure to limit trolley tilt for movement around a horizontal curve as shown in the illustration. A curved slot in each carrier keeps the load beneath the center of the wheels for movement at a vertical angle.

The company is also prepared to supply a transfer section to move loads off and back again from all types of overhead conveyor for vertical handling. This equipment, as well as the standardized conveyor, is available to meet given installation and operating requirements.

BREVITY—Identify by IEN - 7166 if you write the maker

PUNCHING . . Universal machine for structural and fabricating shops

Source: KLING BROS. ENGINEERING WORKS
1302 N. Kostner Ave., Chicago 51, Ill.



Universal No. 7 is a new machine in the company's line of punching equipment, previously described IEN-2914-50, in a larger No. 12 size. It has hole capacity to 1¼ in. or the equivalent through 1-in. mild steel in the center of its ram or a 1⅜-in. hole through ¾-in. mild steel at 10½ in. from the ram center. Rating is 118 ton. Weight is 18,000 pounds. Floor space, without the motor, measures 118 by 36 inches. The machine takes a 7½-hp. motor connected to the flywheel by means of V-belts. It will punch 3-in. to 30-in. I-beams and the same maximum sizes in H-beams for holes in the web or flanges.

Standard equipment includes three high die blocks, two low die blocks, and two gooseneck die blocks. Lubrication is by oil cups and a manually-operated centralized one-shot unit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

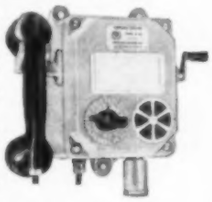
BREVITY—Identify by IEN - 7167 if you write the maker

U.S.I. SOUND POWERED assures dependable communication

"BOMBS AWAY"
(in enemy language)

Could mean no communication in your plant . . . Any communication system depending upon outside power supply is unusually vulnerable.

Investigate the permanent, or emergency, systems offered through U. S. I. sound powered telephones.



WRITE FOR CATALOG DEPT. L

UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

BREVITY—Identify by IEN - 7168 if you write the maker

HANNIFIN AIR CONTROL Valves

NEWEST TYPES! EXCLUSIVE DESIGNS for EVERY PURPOSE!

THE Hannifin line of Air Control Valves is complete—sizes and types for *every purpose*! Hannifin leads with newest, exclusive designs for fast, effortless control of air cylinders, presses, and other air operated equipment. Ask for recommendations.

"PACKLESS" HAND OPERATED

Simple, smooth-acting, positive 3-way or 4-way valves. "Packless" rotary disc type. Self-lapping. Sizes from ⅛" to 1¼". *Ask for Bulletin 57B.*

"EFFORTLESS" HAND OPERATED

Fast, new, finger-tip, pilot operated sliding disc valve. Effortless: air pressure does the work! For single or double acting cylinders. *Ask for Bulletin 251.*

"PACKLESS" FOOT OPERATED

Treadle type; leaves operator's hands free for other work. Tight-sealing, self-lapping, rotating bronze disc. Sizes ¼" up to ¾". *Ask for Bulletin 57B.*

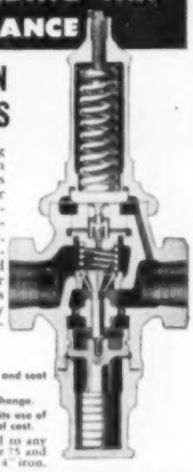
"EFFORTLESS" FOOT OPERATED

Fast, new, pilot operated, disc type valve. Light, effortless action. Rugged construction. With or without pedal guard. *Ask for Bulletin 250.*

HANNIFIN CORPORATION
1107 South Kilbourn Avenue Chicago 24, Illinois

BREVITY—Identify by IEN - 7169 if you write the maker

YOU PAY NO WITHHOLDING TAX ON PERFORMANCE with MASONEILAN REDUCING VALVES



Masoneilan No. 11 Reducing Valves give you accurate steam pressure regulation regardless of initial pressure fluctuations or changes in demand. Their performance cuts operating expenses by reducing waste. Their rugged construction assures long operating life and minimizes maintenance. Their on-the-job records in countless plants throughout the country show year after year of continuous service.

CHECK THESE FEATURES—
- Stainless steel main valve, auxiliary valve and seat rings are standard . . . at no extra cost.
- Wide range of adjustment without spring change.
- Large capacity due to pilot operation, permits use of smaller size regulators . . . saves in original cost.

Initial pressures up to 250 lbs. reduced to any desired pressure between 5 and 75 lbs. or 75 and 255 lbs! Sizes ½" to 2" bronze; 2½" to 4" iron.

MASON-NEILAN REGULATOR COMPANY
1188 ADAMS STREET
BOSTON 24, MASSACHUSETTS, U. S. A.

BREVITY—Identify by IEN - 7170 if you write the maker

Link-Belt CAR SPOTTER releases manpower for other jobs

Get faster car spotting

Reduce switching and demurrage time to a minimum. One man with two or three turns of rope around the motor-driven capstan will handle up to six loaded railroad cars. Available with 5 or 10 hp, integral or separate motors, stationary or portable.

Link-Belt offers a complete line of car spotters . . . also specializes in drum type puller applications.

WRITE TODAY
For 16 Page Bulletin 1992-A

LINK-BELT COMPANY:
Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal cities.

BREVITY—Identify by IEN - 7171 if you write the maker

Exclusive 7" ERASER saves your drawings

● The exclusive 7" rubber eraser of the Bruning electric erasing machine saves your valuable drawings. It prevents those costly eraser fly-outs which are unavoidable with short erasers of ordinary machines.

● Stays cool, even with continuous use, and has lifetime lubrication. There's no wobble, no vibration – just easy, accurate erasures made *in seconds.*

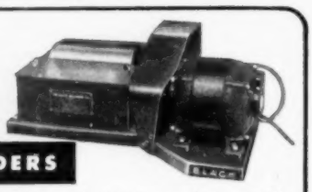
● Write today for free folder, "Exclusive Erasing Advantages." It gives you all the reasons why Bruning is your *best buy* in electric erasers.

BRUNING

CHARLES BRUNING COMPANY, INC.
Dept. H-71, 100 Reade Street
New York 13, N. Y.

BREVITY—Identify by IEN - 7172 if you write the maker

PORTABLE...MOTOR DRIVEN

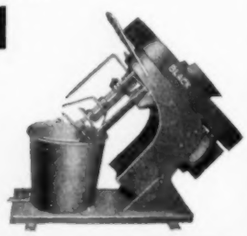


SPREADERS

Made for all kinds of adhesives . . . hot or cold. Applies an even, economical coat. 115 volt AC motor. Floor stand with casters available if desired. Write for Bulletin 11-A.

MIXERS

Made in 2, 5, 7½, and 15 gal. sizes. Powder added gradually through oscillating sifter. Arm hinged so that it can be tilted out of the way. Two way agitation. Write today for Bulletin 11-I.



THE BLACK BROTHERS CO., INC.
MENDOTA, ILLINOIS, U. S. A.

BREVITY—Identify by IEN - 7173 if you write the maker

"Portable" JEFFERSON "601" Power HACK SAW

FASTER . . . MORE ACCURATE CUTTING

Eliminate tedious hand hack saw cutting. Free larger machines. You'll find scores of jobs for this handy portable Power Hack Saw. Capacity 3½" x 3½".

KELLER Power HACK SAWS 8 Models
Capacity to 6¾" x 6¾".

( ) Send me complete details on the Jefferson "601."
( ) Send me Keller Power Hack Saw Bulletin.

Name .....
Company .....
City ..... Zone .....
State .....

Sales Service Machine Tool Co.
2365 UNIVERSITY AVENUE
ST. PAUL 14, MINNESOTA

BREVITY—Identify by IEN - 7174 if you write the maker

CONSTRUCTION . . Gasoline hammer operates as paving breaker, rock drill

Source: BARCO MFG. CO.
1804 W. Winnemac Ave., Dept. J-66, Chicago 40, Ill.

New assembly of the company's Model J-2 engine-driven hammer employs a combination coil-vibrator-condenser mounted in one of the hammer handles rather than in a much larger separate unit as in the initial design. Length of the high-tension lead is reduced in the new arrangement from 10 ft. to about 5 inches. The combination is sealed and can be replaced as a unit. Electric current is supplied by a 6-volt wet or dry battery. Current demand for the ignition is about one ampere.

The hammer is air cooled and is driven by a single two-cycle floating piston. Normal fuel consumption is about 1 qt. of gasoline per hour. Weight is 72 lb. in the standard design or 89 lb. in a heavier model H-6B. Both operate at 1,550 strokes per minute. Operation is started by pushing down on a plunger located in the head of the cylinder.

BREVITY—Identify by IEN - 7175 if you write the maker

CRANE . . Motor driven trolley for bridge type crane, 3, 5, 7½ ton

Source: CONCO ENGINEERING WORKS
59 Grove St., Mendota, Ill.

Type SD is new design of motor-driven trolley in the company's line of cranes. Assembly is in a welded-steel frame and hoist-gear housing in which the gears operate in oil and the shafts are mounted on roller bearings. The equipment includes an integral disc or shoe-type brake on the armature shaft of the hoist motor and a Weston brake for lowering control on ac. assembly. Dynamic braking is standard for dc. equipment and is optional for ac. The motor is standard NEMA foot-mounted design. The assembly is rated for a factor of safety of 6.

BREVITY—Identify by IEN - 7176 if you write the maker

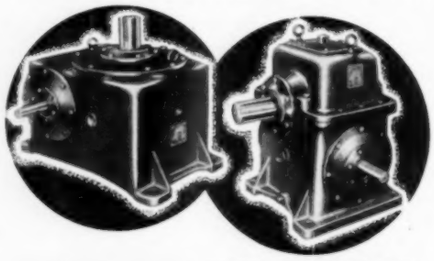
PLANT SAFETY . . For small companies the subject of new booklet that tells what to do

National Safety Council
423-27 N. Michigan Ave., Chicago 11, Ill.

Opening statement that "two-thirds of industrial injuries occur in businesses of fewer than 100 workers" is followed by a description of the problems involved. The new 24-page booklet, "Safety Pays the Smaller Business", lists steps and suggestions on how to prevent accidents, tells where to get assistance. Single copies are available on request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7177 if you write the maker



HYGRADE WORM GEAR DRIVES

. . . assure smooth, trouble-free operation and better power transmission.

New developments in manufacture provide precision generated gears which give improved performance and greater load-carrying capacity.

Available in horizontal, vertical and Hytop designs. Ratios up to 4108 to 1 or higher when required.

Write for Bulletin HGA

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Blvd. • Chicago 9, Illinois

FOOTE BROS.
Better Power Transmission Through Better Gears

BREVITY—Identify by IEN - 7178 if you write the maker

"Haynes Stellite" alloy half bushings

TRADE-MARK

reduce bearing wear caused by:

1. Conditions where efficient lubrication is impractical.
2. Dirt or other abrasive particles between bearings.
3. Corrosive agents in lubricant or atmosphere.
4. Dilution of lubricant or decomposition by heat.

HAYNES STELLITE alloy half bushings resist wear, heat and corrosion. Under conditions of metal to metal contact, they also resist scoring, galling and seizing. The bushings have good fatigue strength, low coefficients of friction and can be attached quickly and easily to the bearing surfaces of new or used shafts or journals.

Write to our General Offices in Kokomo, Indiana, for information on the sizes and prices of available bushings.

Haynes Stellite Company
A Division of Union Carbide and Carbon Corporation
UCC
General Offices and Plant: Kokomo, Indiana

"Haynes Stellite" is a trade-mark of Union Carbide and Carbon Corporation.

BREVITY—Identify by IEN - 7179 if you write the maker

NO MORE CARBON SCRAPING

Nothing Decarbonizes and Cleans CARBURETORS, FUEL PUMPS, PARTS Like..

U.S. PAT. #2318842*
GUNK DUNK BENCH Carburetor and Parts Cleaning Kit. New 6½ gal. size deep "Vapor-catcher" design pail.

New—Improved—More Potent*

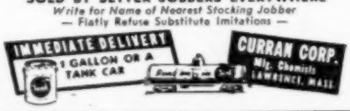
GUNK HYDRO-SEAL

A WORD OF CAUTION
If it doesn't bear the Genuine GUNK trademark, it may be a partly diluted imitation—and will not give you the Safety and Advantages of Genuine GUNK and should be flatly refused.

*1. Faster . . . Terrific penetration . . . new improved odor.
2. Quickly digests and removes carbon gum, paint, lead, makes possible accurate visual inspection and fitting of delicate metering mechanisms, jets, orifices and diesel nozzles . . . without etching.
3. Lasts more than one year . . . due to water blanket.
4. Works hot or cold . . . Rinses wet or dry.
5. Patented Double Barrel Performance Guaranteed.

SOLD BY BETTER JOBBERS EVERYWHERE
Write for Name of Nearest Stocking Jobber
— Flatly Refuse Substitute Imitations —

IMMEDIATE DELIVERY 1 GALLON OR A TANK CAR



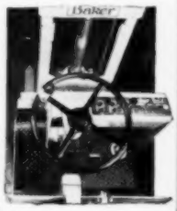
CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

BREVITY—Identify by IEN - 7180 if you write the maker

If you can drive an auto— you can drive the NEW BAKER FORK TRUCKS!

Simplicity of operation means no training period for new drivers. Ease of handling means more work per day. Increased visibility means greater safety and less damage to material handled. Happier operators mean improved employee relations.

- Easier Steering
- Greater Comfort and Operating Convenience
- Greater Visibility, Less Operator Fatigue, More Efficient Operation, Greater Safety
- Simple to Operate
- Easy to Service and Maintain



The New BAKER Fork Trucks can be serviced in a fraction of the time required for trucks of less advanced design. Compare the following times with the experience of your maintenance department:

Remove Power Axle	60 minutes
Remove Trailing Axle	20 minutes
Reline Brakes	30 minutes

Yours for the Asking!

16-page picture-story manual "CARE and MAINTENANCE OF INDUSTRIAL TRUCKS." *Write for your copy today.*

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company
1226 West 80th Street, Cleveland 2, Ohio
In Canada: Railway and Power Engineering Corp., Ltd.

Baker INDUSTRIAL TRUCKS

BREVITY—Identify by IEN - 7181 if you write the maker

Aetna ...a helping hand FOR CONVERSION HEADACHES

Are rapid production changeovers to specialized and exacting military needs taxing your energy, ingenuity and plant facilities? In this race against time, Aetna may be the solution to your knotty precision parts or special bearing problems.

Aetna's vast store of experience and tools accumulated from years of designing and producing "custom" ball and roller bearings and precision parts up to 35" O.D., has become so versatile that YOUR "specials" can usually be set-up for manufacture without special tools or dies—a pronounced saving in time, trouble and expense.

If you're in a "spot", reach for Aetna's helping hand. Just state your problem, send your prints, or ask that a near-by representative drop in. No obligation.

AETNA BALL AND ROLLER BEARING COMPANY
4600 SCHUBERT AVENUE • CHICAGO 39, ILLINOIS

Standard and Special Ball Thrust Bearings • Angular Contact Ball Bearings • Special Roller Bearings • Ball Retainers • Hardened and Ground Washers • Sleeves • Bushings • Miscellaneous Precision Parts

BREVITY—Identify by IEN - 7182 if you write the maker

What Does

Mean To You?

A test run of "T" Abrasives in *your* plant under *your* supervision will conclusively prove to you that—

- **"T" means faster cleaning of castings, forgings and heat treated parts!**
- **"T" means up to 88% longer abrasive life!**
- **"T" means longer equipment life—blades, slats, end plates, etc.**
- **"T" means 15% to 50% reduction in total maintenance and abrasive costs.**

The specific claims made above are backed by *A SPECIFIC PERFORMANCE GUARANTEE* by the producers, National Metal Abrasive Co. and Western Metal Abrasives Co.

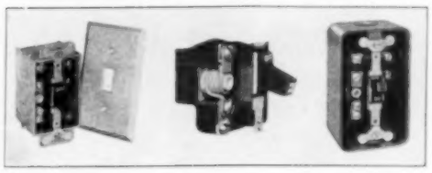
For full particulars about "T" Shot and Grit and PERMABRASIVE, the "MALLEABLIZED "T" Abrasive, contact the H. W. office nearest you.

Hickman, Williams & Co.
INCORPORATED
CHICAGO · DETROIT · CINCINNATI · ST. LOUIS · NEW YORK
CLEVELAND · PHILADELPHIA · PITTSBURGH · INDIANAPOLIS
Established 1890

BREVITY—Identify by IEN - 7184 if you write the maker

MOTOR CONTROL . . Manual starter for 1 hp. and smaller ac. and dc. motors

Source: SQUARE D CO.
4039-43 N. Richards St., Milwaukee 12, Wis.



Class 2510 Type A is a new manual motor starter providing on-off control for dc. or single-phase ac. motors to 220 volts in motor sizes of 1 hp. or less. The double-break contact mechanism provides quick make-and-break action at its silver contact tips. Trip-free overload protection with an interchangeable overload relay unit is built in. The relay is accessible from the front. Line and load terminals are located for straight-through wiring.

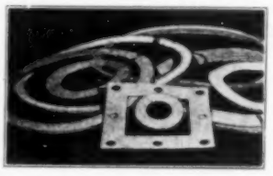
An overload sufficent to open the circuit causes the operating handle to move to center position to indicate that the contacts have opened. The circuit cannot be reclosed until the relay has been reset manually by moving the handle to full "off" position after allowing about two min. for the relay to cool. Normal motor starting current and momentary overload will not cause tripping due to the inverse time characteristic of the relay. Continuous over-current through the heater unit raises the temperature of the melting alloy in the relay and finally permits a ratchet to turn. This releases a spring engaging the ratchet to trip the switch mechanism.

Three types of enclosure include a general-purpose unit, one that is water and dust tight and one that is explosion resistant. The general-purpose design is die-cast aluminum. All three can be supplied with a pilot light for 110 and 220-volt operation. Detail illustrated information is contained in 4-page bulletin, "Class 2510 F. H. P. Manual Starters."

BREVITY—Identify by IEN - 7185 if you write the maker

SEALING . . Asbestos gaskets, standard shapes and sizes and to order

Source: LAWTON H. PARSONS
10 S. Main St., Ambler, Pa.

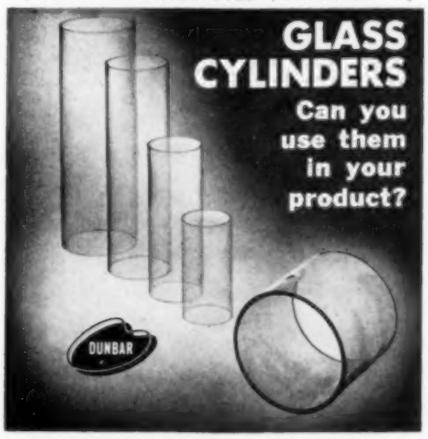


Asbestos yarn reinforced with fine brass wire is woven into a cloth which then is treated with a heat-resisting compound in manufacture of the company's line of gaskets and gasketing tape. The products have been on the market for some time and now are being made generally available for use on pressure vessels, tanks, processing equipment. Man-hole and hand-hole gaskets are carried in stock in a range of shapes and sizes with inside diameter, based on circular units from 2½ to 18 inches. Flange width is $\frac{3}{16}$ in. or greater and thickness is $\frac{3}{16}$ in. or more. The gaskets will seal against steam, air, water, ammonia, acid, alkalis at normal or elevated temperatures.

The tape material is furnished in standard coils containing 100 and 200 linear feet. Standard width is 1 in. or more and standard thickness is ⅛ in. or more.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7186 if you write the maker



For dispensers, merchandise displays, visible hoppers, lighting fixtures, sight feeders, meters, columns or any other applications, DUNBAR offers you a wide variety of cylinder sizes in economical quantities. Or we will fabricate blown glass cylinders to your specifications. We invite your inquiries. Write Dept. 966 for our Glass Cylinder catalogue No. C-51.

Dunbar Glass Corporation
DUNBAR, WEST VIRGINIA
NEW YORK • CHICAGO • LOS ANGELES

BREVITY—Identify by IEN - 7187 if you write the maker

ALL-PURPOSE SLINGS

with new Roebling Tapered Sleeve Splice . . . stronger . . . cost less!

NEW ROEBLING All-Purpose Slings with the Tapered Sleeve Splice are delivered ready for the job. The unique rolled loops and tapered sleeve attachments develop the full strength of the rope ...cost less than ordinary tucked splices...save "splicing your own".

Made of Roebling "Blue Center" Steel Wire Rope, All-Purpose Slings are unsurpassed for toughness and dependability...flexible and easy to handle...come in all standard lengths and sizes. Send for full information and for the free "Sling Data Book." John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

BREVITY—Identify by IEN - 7188 if you write the maker

NEW MACHINE LEVELING DEVICE

Where anchor bolts are used, this new Empco Jack Style JS will save considerable time in setting and keeping equipment level.

Tested to support 20 tons and lift 8,000 lbs., this Empco Jack is the answer to any machine installations. Anchor bolt hole through the jack assembly allows clearance for ¾" diameter bolt. This permits the Empco Style JS Jack to be used at the *precise spot* where equipment was designed to be best supported.

Available in three sizes: 1¾", 2", and 3" (minimum heights) with VI-SORB mounting pads as optional equipment.

Write for specifications and prices of the complete line of Empco Leveling Jacks today.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

BREVITY—Identify by IEN - 7189 if you write the maker

Write for your copy

THE BABCOCK & WILCOX TUBE CO.
General Offices: Beaver Falls, Pa.
Plants: Beaver Falls, Pa., and Alliance, O.

B&W STAINLESS and WELDED TUBES

BREVITY—Identify by IEN - 7190 if you write the maker

1 of Many Uses FOR SAFWAY STEEL SCAFFOLDING

AROUND A MODERN INDUSTRIAL PLANT

Large and small industrial plants find many profitable applications for Safway tubular steel scaffolding . . . both outside and indoors. Standard interchangeable parts are quickly assembled to any form required for uses such as:

SCAFFOLDING (for building maintenance). STATIONARY TOWERS (for stock inspection and work). ROLLING TOWERS (for equipment maintenance). PLATFORMS (for assembly of large machines). RACKS (for storage of stock), etc.

Assemblies may be permanent or temporary. Safway parts can be re-used indefinitely.

WRITE FOR FREE LITERATURE—
Ask for Bulletin IEN-751

DISTRIBUTORS IN PRINCIPAL CITIES

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

BREVITY—Identify by IEN - 7191 if you write the maker

Cut costs with the NEW ROTOR SCALER

For these jobs:

Weld slag removal	Scaling
Spatter cleaning	Star drilling
Weld peening	Light chipping

Call in the Rotor Analyst to demonstrate it on your work.

THE ROTOR TOOL CO.
CLEVELAND, OHIO

BREVITY—Identify by IEN - 7192 if you write the maker

SPEEDY AIR VISE

SPEEDS UP

✓ MILLING	✓ PUNCHING
✓ DRILLING	✓ BENDING
✓ TAPPING	✓ RIVETING

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings . . . . . only **$29.90**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • Armitage Ave. • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

BREVITY—Identify by IEN - 7193 if you write the maker

HANDLING . . Lift hook to assemble in shipping case corners

Source: NEILSON WHEEL CO.
1612-16 N. 12th St., Milwaukee 5, Wis.

Swivel hook, recessed plate, anchor bolts and bracket form a unit assembly for installation at the four corners of a shipping case. The hook is now available for general use in connection with shipping of heavy unit loads, following initial development with Forest Products Laboratory and the Air Forces at Wright Field during the last war. At that time the hook was specified by the Air Forces for engine-packing cases. It is available now to order at a list price of about $5 in quantities under 1,000.

Load rating for a set of four units is 10 ton. Breaking tests show individual hook rating to 13,000 pounds. When not being used the hook lies flat flush with the top of the case in which the recessed plate is assembled.

BREVITY—Identify by IEN - 7194 if you write the maker

GAGE . . Flexible steel rule, 6 and 8 ft. lengths in steel case

Source: STANLEY ELECTRIC TOOLS DIVISION
478-82 Myrtle St., New Britain, Conn.

Black numerals and graduations stand out clearly on the ⅝ in. nickel-plated blade in this new pull-push rule. The blade is graduated in 16ths for its entire length and in 32nds for the first 12 in. on its upper edge. It can be replaced after drawing it out from the case.

No. 556 is 6 ft. in length and lists at $1.25. No. 558 measures 8 ft. and lists at $1.40. No. 556E, 6 ft. in length, is graduated in 10ths and 100ths of ft. on the lower edge only. It lists at $1.50. Inside measurements can be made by reading the rule and adding 2 in. for the length of the case.

BREVITY—Identify by IEN - 7195 if you write the maker

BATTERIES . . Company offers information to assist you in keeping storage batteries running

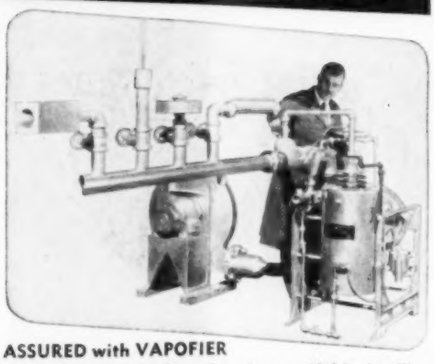
Gould-National Batteries Inc.
465-69 Calhoun St., Trenton 7, N. J.

Initial step in new "Plus-Performance Plan" is for a battery user to write the company and tell what kind of batteries he has and what he wants information on. The company then will make up an individual information portfolio to suit his needs, without obligation on his part. This information includes instruction manuals, data bulletins, record cards. Descriptive bulletin on request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7196 if you write the maker

PRODUCTION INSURANCE against GAS CURTAILMENT



ASSURED with VAPOFIER

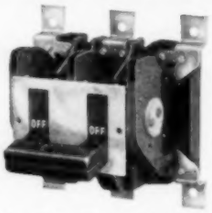
Many costly plant shutdowns have been avoided by installing Vapofier as a dependable gas supply. Over 100 varied types of industries use it. Produces clean, sootless, odorless gas by vaporizing (not atomizing) fuel oil. Reliable automatic control, constant fuel-air ratio and uniform manifold pressure. Quick change from utility gas without flame interruption, using same piping and burners. 9 sizes with capacities from 70,000 to 4,000,000 B.T.U.'s per hour.

Write for complete details on the advantages of firing with Vapofier.

VAPOFIER CORP. • 10326 S. Throop St., Chicago 43, Ill.

BREVITY—Identify by IEN - 7197 if you write the maker

For Tough Jobs at Sea or Ashore



TU SWITCHES
2 and 3 Pole

• Designed to meet the stiff requirements of Navy Specification 17S18 (INT), two and three pole "Diamond H" "TU" Switches have proved their rugged stamina in dozens of heavy duty applications, both marine and industrial, controlling lights, motors, resistance welders, hoists, winches, pumps, machine tools, automatic doors, and other equipment.

• Extra coils on the heavy compression spring (quick make, quick break) provide such a wide margin of strength that we've never heard of one breaking. Features include positive action mechanical kick-off, arc snuffers, heavy molded phenolic base, cadmium plating of all steel parts. Withstands extreme vibration and shock (and 2600 volt A. C. dielectric test).

Ratings: 60 A.; 125, 250 and 500 V., A. C.; 125 and 250 V., D. C.

Write today for complete details on how these and other "Diamond H" switches and controls will meet your requirements

THE HART MANUFACTURING COMPANY
203 Bartholomew Ave., Hartford, Connecticut

BREVITY—Identify by IEN - 7198 if you write the maker

IN PEACE OR WAR approximately 75% of the steel produced is used to fasten the rest together

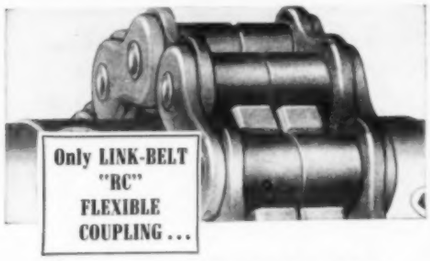
•You've heard the expression "tail wags dog". Well, that's pretty much the relationship between steel fasteners and the bulk of the steel utilized in fabricating products. Without fasteners most of the steel produced would be useless.

•Lamson & Sessions have long held a key position in supplying the production lines of industry with fasteners of many types. Today, with the rearmament program gaining momentum, Lamson again stands ready to help solve *your* fastener problems. You are invited to call on us—anytime.

The home of "quality controlled" fasteners **Lamson & Sessions**

The LAMSON & SESSIONS Co. . General Offices: 1074 West 85th Street • Cleveland 7, Ohio
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

BREVITY—Identify by IEN - 7199 if you write the maker



gives you single-chain simplicity plus divided rollers

YES, the exclusive design of Link-Belt "RC" Flexible Couplings combines these two desirable features.

The result: equalization of load, proper balance at high speeds . . . adjustment to reasonable misalignment and end float . . . simplicity and economy.

Link-Belt makes a complete line of Roller Chain Couplings from fractional to 1000 hp. You can get all the facts from Folder 2363.

"RC" Couplings available in 30 sizes, ¾ to 12 in. bore.

★ **LINK-BELT "RC" FLEXIBLE COUPLINGS**

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in principal cities. 12,525

BREVITY—Identify by IEN - 7200 if you write the maker

MERCOID
AUTOMATIC CONTROLS

THEY ARE USED FOR THE CONTROL OF TEMPERATURE, PRESSURE, LIQUID LEVEL AND MECHANICAL OPERATIONS.

THE MERCURY SWITCH IS A FEATURE IN MERCOID CONTROLS. THE REASON FOR THE MERCURY SWITCH IS THE ADDED SAFETY-BETTER PERFORMANCE AND LONGER CONTROL LIFE-ALL OF WHICH ARE IMPORTANT WHEREVER CONTROLS ARE REQUIRED

WHY CONSIDER LESS WHEN YOU CAN GET SO MUCH MORE

WRITE FOR COMPLETE CATALOG

THE MERCOID CORPORATION 4201 BELMONT AVE., CHICAGO 41, ILL.

BREVITY—Identify by IEN - 7201 if you write the maker

What's U. S. Rubber doing to cut finishing time?

This workman "finishing" the bead of a weld reports that his "U.S." Cup Wheel cuts finishing time in half.

"U.S." maintains engineering staffs which are constantly working with industry to develop more economical and efficient grinding wheels. These experts are backed by over 88 years of "U.S." experience in bonds and abrasives. Bring your problems to them.

PRODUCTS OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
MECHANICAL GOODS DIVISION, ROCKEFELLER CENTER, NEW YORK 20, N. Y.

BREVITY—Identify by IEN - 7203 if you write the maker

HOIST . . Hand chain design assembles with I-beam trolley, to 3 ton

Source: AMERICAN CHAIN & CABLE CO.
927-31 Connecticut Ave., Bridgeport 2, Conn.

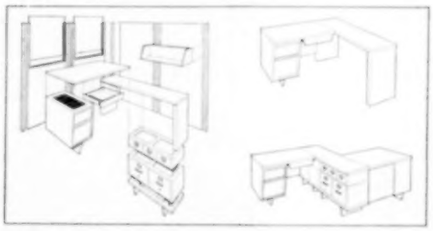
Five sizes are included in a new line of Safeway Army-Type chain-hoist assemblies which include the hoist itself, a horizontal load bar and two pivoted I-beam trolleys. The trolleys are plain design or one can be equipped with geared wheels and a hand-chain sprocket for travel movement. Smallest unit with ½-ton rating has a standard lift of 8 ft., applies on a 5 to 8-in. I-beam and weighs 93 pounds. It lists at $240. Additional lift per foot lists at $3.60 for this small size in the line.

Largest 3-ton assembly has a standard lift of 10 ft., applies on an 8 to 15-in. I-beam. It lists at $515 in plain trolley assembly, adds $5.20 per additional foot of lift and weighs 225 pounds. The same size unit with a geared trolley lists at $610, adds $7.20 per foot of additional lift and weighs 249 pounds. The trolley wheels have chilled treads and are mounted on ball bearings. Side plates and swivel connections to the load bar are steel.

BREVITY—Identify by IEN - 7204 if you write the maker

FURNITURE . . Demountable wood desk, center runner, files, partitions, shelves

Source: GLOBE-WERNICKE CO.
Carthage & Ross, Cincinnati 12, Ohio



Techniplan identifies new assembly of modular wood office equipment based upon desk-top dimensions of 30 by 40 in. and center-runner dimensions of 18 by 66 inches. Partition panels and posts are available plain or with glass windows and in heights of 48 and 66 inches. The equipment includes shelf units and integral fittings to secure the shelves, lighting fixtures, fluorescent troughs, communicating equipment and electrical and telephone connections.

The parts are made of hard kiln-dried polished birch. Leveling devices are provided for installation on uneven floors. The equipment can be set up quickly and can be moved and changed into various arrangements to suit changing conditions. Sample assemblies are outlined in a new 6-page folder, "The Techniplan Office."

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7205 if you write the maker

SEND FOR THIS!

● Have you checked your scale needs? Get latest information on the Toledos that help you guard costs . . . speed production. Send for catalog today. Toledo Scale Co., Toledo 1, Ohio.

Printed Weights—eliminate human errors—assure that weight-cost records are right from the start!

50TH ANNIVERSARY (1901-1951)

TOLEDO
HEADQUARTERS FOR SCALES

BREVITY—Identify by IEN - 7206 if you write the maker

Engrave

. . . PANELS UP TO 25" WIDE IN YOUR OWN SHOP WITH THE NEW ENGRAVOGRAPH
Portable Model 1-S

The only portable machine which reproduces 15 sizes from one master alphabet.

The only one with adjustable copy holding slides for multiline engraving in one set-up.

Self-centering holding vise for nameplates.

Send for Booklets
1-S 23—portable model
M-23—heavy duty model

new hermes Engravograph

NEW HERMES, Inc.
13-19 University Pl., N. Y. 3, N. Y.
CANADA: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

BREVITY—Identify by IEN - 7207 if you write the maker

Low-Cost Production Inspection

This versatile, simplified version of the Kodak Contour Projector will fit into *your* inspection and assembly line. With it you can handle a wide variety of precision jobs, large or small.

Fast, accurate, and needing no cumbersome hoods or curtains, it takes little skill to operate. Gauging takes less time, is more complete. And experience has shown that fixtures for optical inspection outlast mechanical gauges by as much as ten to one.

If your work calls for examination of surface details and deep recesses, or requires vertical projection, there are accessories to do the job. Lenses are available for magnifications up to 100×. All optical parts are dust-sealed—never need adjustment.

We'll be glad to show you how this adaptable new instrument will work on your problems. Write to Eastman Kodak Company, Industrial Optical Sales Division, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR, MODEL 3

Distributed by ENGINEERS SPECIALTIES, Buffalo 9, N. Y.

*List price, F. O. B. Rochester, N. Y., magnification lenses and accessories extra. Price subject to change without notice.

Kodak
TRADE MARK

BREVITY—Identify by IEN - 7209 if you write the maker

2 DUMORE DRILL HEADS cut multiple-drilling costs in half

for Omco Products Corporation

PROBLEM: This Ohio subcontractor was getting only 90 pieces per hour, drilling 3 holes in a small airplane part. Set-up used was a tumble jig and a 4-spindle multiple drill head.

SOLUTION: Output was doubled and costs cut from $10.95 to $5.82 per thousand by set-up shown above. One Dumore head drills from left, one from right, and handpress from above. Hand trip controls Dumore heads.

Would you pay $200 to save $5,000 a year . . . $400 to save $10,000? Sure you would. And that's the kind of savings users of small drills are getting with the new Dumore Automatic Drill Head.

You'll have to be the judge of how much this revolutionary tool can save you, because only you know your problems. That's why we're urging you to write for the facts Today!

Write for free CERTIFIED REPORT

COMPLETE JOB DATA by an unbiased research organization

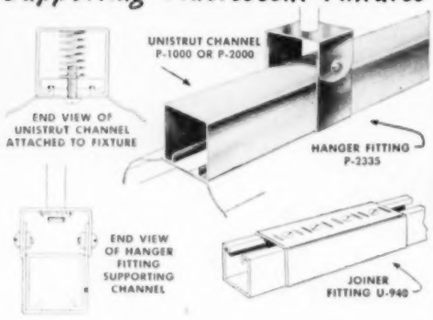
The DUMORE Company
Dept. G-47, RACINE, WISCONSIN
Export Address: 13 E. 40th St., New York, N.Y., U.S.A.

BREVITY—Identify by IEN - 7210 if you write the maker

For Perfect Alignment, Safety and Low Cost

USE UNISTRUT

The Completely Modern Method of Supporting Fluorescent Fixtures



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UNISTRUT PRODUCTS COMPANY
1013 W. Washington Boulevard
Chicago 7, Illinois, Dept. D7

● Please send me Free copy of 4-page Bulletin FF-3—"How to Hang Fluorescent Fixtures with Unistrut."

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Company _____
Address _____
City _____ Zone _____ State _____

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Identification, size of the material, information it contains so you can judge its value to you.

ACCOUNTING . . Punch-card equipment for inventory accounting: example. Bulletin 52-8175, 36 pages. International Business Machines, 590 Madison Ave., 18th Flr., New York 22, N. Y. **IEN-0759**

ADHESIVES . . For export packaging; data on three types to meet Government specifications. Folder Z-EPF, 4 pages. Minnesota Mining & Mfg. Co., 409-13 Piquette Ave., Detroit 2, Mich. **IEN-0760**

ADHESIVES . . Dextrin material to adhere containers into a unit pallet load; instructions. "Load-Lok," 4 pages. National Starch Products, 270 Madison Ave., 10th Flr., New York 16, N. Y. **IEN-0761**

AIR CONDITIONING . . And heating equipment, also fans, blowers; condensed capacity tables. Catalog SA-6692, 16 pages. Westinghouse Electric Corp., 202 Readville St., Boston 36, Mass. **IEN-0762**

ALLOYS . . Three high-permeability magnetic nickel-iron alloys; properties in tape-wound core form. Bulletin TC-100, 24 pages. Arnold Engineering Co., P. O. Box G-A, Marengo, Ill. **IEN-0763**

BALANCING . . "Dy-Namic" machines to balance rotating parts; models, specifications, notes on theory. "Industrial Balancing," 24 pages. Bear Mfg. Co., 2014-18 Fifth Ave., Rock Island, Ill. **IEN-0764**

BALLS . . In metal, carbide, plastic, ceramic, other materials to specification; scope of service. Bulletin 511, 2 pages. Industrial Tectonics, 3682-86 Jackson Ave., Ann Arbor, Mich. **IEN-0765**

BATTERIES . . "Eveready" No. 493 300-volt battery for portable equipment; data. "Battery Engineering Bulletin 4," 2 pages. National Carbon Div., 30 E. 42nd, Rm. 308, New York 17, N. Y. **IEN-0766**

BEARINGS . . "Concavex" self aligning roller bearings; types, engineering data, selection. Catalog 51, 56 pages. Shafer Bearing Corp., 803 Burlington Ave., Downers Grove, Ill. **IEN-0767**

BENDING . . "Chicago" bending brakes for material to ¾ in.; models, examples of work, specifications. Catalog P-51, 12 pages. Dries & Krump Mfg. Co., 7402 S. Loomis, Chicago 36, Ill. **IEN-0768**

BLOWERS . . "Turbo-Compressor" single and multi-stage units, pressure to 10 lb.; models, ratings. Bulletin 126-A, 12 pages. Spencer Turbine Co., 485 New Park Ave., Hartford 6, Conn. **IEN-0769**

BORING . . Model 340-T horizontal boring, drilling, milling machine; specifications. Bulletin 34-T, 8 pages. Giddings & Lewis Machine Tool Co., 140-44 Doty St., Fond du Lac, Wis. **IEN-0770**

BUILDINGS . . Prefabricated metal panels for roof, floor, walls; selection, assembly. Catalog BP-1, 40 pages. Detroit Steel Products Co., 3129 Griffin St., Detroit 11, Mich. **IEN-0771**

BURNERS . . Model-50 gas and oil burner, 4 to 100 gph.; description, ratings, electronic controls. Folder L-2, 4 pages. Ray Oil Burner Co., 403 Bernal Ave., San Francisco 12, Calif. **IEN-0772**

CAPACITORS . . "Demicon" miniature paper capacitors in metal cases; ratings on units to 600 volts. Folder 139, 4 pages. Cornell-Dubilier Electric Corp., 1000 Hamilton, S. Plainfield, N. J. **IEN-0773**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7212 if you write the maker

STOP ACCIDENTS with BRADY SAFETY SIGNS

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

WRITE FOR Free SAMPLES AND Useful CATALOG

MANUFACTURERS OF SELF-STICKING PRODUCTS
WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED "TEXTOR" TAPE · MARKERS & STENCILS

W. H. BRADY COMPANY
3633 E. SPRING STREET • CHIPPEWA FALLS, WIS.

BREVITY—Identify by IEN - 7213 if you write the maker

DARNELL CASTERS

SPEED
PRODUCTION

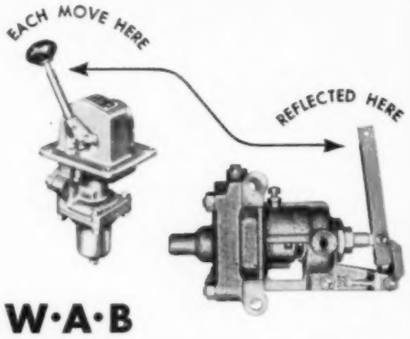
DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N.Y.
36 N. CLINTON, CHICAGO 6, ILL.

BREVITY—Identify by IEN - 7214 if you write the maker

Got Any Problems That Call For

THROTTLING GRADUATING POSITIONING CONTROLS?

Here's your Answer...



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VALVES and ACTUATORS

The smallest move of the control-valve handle is "echoed" by proportional movement of the actuator to throttle engines, graduate flow in process operations, positioning actuator to modulate fuel feed to boilers, etc. Eliminates complication and maintenance of mechanical linkage. Only connection is an air tube. Place controls at any distance from operation, centralize command of multiple operations. Hand, foot and cam operated valves available. Ask for Bulletin IDA 9481-1.

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they call me

Handy Andy

Here's the handiest test pump for hydraulically testing pipe, valves and fittings; for operating hydraulically actuated equipment; for hundreds of other uses in field, laboratory or shop. ★ This two-stage, manually operated pump has one cylinder for low-pressure testing (up to 2,500 psi); is quickly shifted to develop up to 6,000 psi. ★ Replaces elaborate, expensive testing equipment. ★ Readily portable (weighs only 70 pounds) and with a bucket of water you can quickly and painlessly develop on-the-spot pressures up to 6,000 psi. ★ Costs mighty little—lasts indefinitely—pays for itself long before a few inexpensive wearing parts need to be replaced. ★ For details and price address . . .

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Lightnin® Mixers
MIXCO® Engineered

WIDEST CHOICE OF STANDARD STOCK MIXERS—Electric and air-driven types, direct or gear drive. Sizes ⅙ to 3 HP. Ready to operate. Full selection of motors and materials. Replacement parts always in stock.

ILLUSTRATED Lightnin Gear Drive Portable Mixer

What a Difference the *Right* Agitation Can Make!

On job after job, LIGHTNIN Mixers have cut process time *in half*—improved product uniformity—slashed manpower costs—simply by giving the correct agitation for the job. You can standardize on LIGHTNIN—because there is a LIGHTNIN Mixer for every fluid agitation job! Get the facts . . . write today for illustrated Catalog B-75.

WHAT TO LOOK FOR IN A PORTABLE MIXER

BALL-BEARING MOTORS . . . Semi-enclosed, totally enclosed, or explosion-proof, as required. One of the reasons for LIGHTNIN's exceptionally long operating life.

BALL AND SOCKET CLAMP permits various mixing actions—pulling vortex, heavy rolling action, or LIGHTNIN two-way action. Mixer can be swung out of tank for cleaning.

SEALED OUTBOARD BEARINGS take the load of mixing shaft off the motor bearings. Permanently sealed to prevent leakage and contamination of the mix.

PROCESS ADAPTED AGITATION
TOP-ENTERING
LIGHTNIN MIXCO
OUTBOARD
SIDE-ENTERING

SEND FOR THESE HELPFUL CATALOGS
Lightnin Portable Mixers . . . Cat. B-75
Lightnin Propeller Mixers for Closed Tanks . . . . . Cat. B-78
Lightnin Side Entering Mixers for Tanks up to 5 Million Gals. . . . . Cat. B-76
Lightnin Turbine and Paddle Agitators; 1 to 200 HP, Cat. B-89

MIXING EQUIPMENT CO., Inc.
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In Canada: William & J. G. Greey, Ltd., Toronto 1
Representatives in Principal Cities

NEW LITERATURE—Continued

"Are these in your catalog file?"

CARBIDE PARTS . . Bushings and solid cylinders of tungsten carbide; gram weight price tables, extras. Bulletin B-151, 12 pages. Adamas Carbide Corp., 998 S. Fourth St., Harrison, N. J. IEN-0774

CASTINGS . . Made of ductile cast iron; properties of the material, examples of recent castings. "Review 4-1." 6 pages. Kutztown Foundry & Machine Corp., 943 Normal St., Kutztown, Pa. IEN-0775

CASTINGS . . Permanent-mold and die castings; description of facilities and scope. "Fact File," 12 sheets and folder. Monarch Aluminum Mfg. Co., 9303 Detroit Ave., Cleveland 2, Ohio IEN-0776

CASTINGS . . Pulleys, flywheels, gear blanks, rolls in sizes to 144 in.; typical patterns. "Special Size," 6 pages. Pyott Foundry & Machine Co., 326-30 N. Sangamon, Chicago 7, Ill. IEN-0777

CENTRIFUGALS . . Suspended units, 20 to 48-in. baskets; construction, control, force diagram. "Chemical Centrifugals," 26 pages. Fletcher Works, 225 Glenwood Ave., Philadelphia 40, Pa. IEN-0778

CLEANING . . Cut-wire steel shot for blast cleaning machines; properties, performance. "Here's How," 4 pages. Cleveland Metal Abrasive Co., 885-89 E. 67th St., Cleveland 3, Ohio IEN-0779

CLEANING . . "Hydro-Sand" wet-abrasive-blast equipment for large castings; schematics, examples. Bulletin 1110, 12 pages. Pangborn Corp., 230 Pangborn Blvd., Hagerstown, Md. IEN-0780

CLEANING . . Hand-operated drain tool; action, models, list prices, user reports. "Power-Twist Cleaner," 4 pages. Standard Appliance Co., 913-17 Valley St., Dayton 4, Ohio IEN-0781

COMMUNICATING . . Two-way radio for industrial and mobile use; how-it-works description. Bulletin 2-J-6204, 12 pages. Radio Corp. of America, 1941 Front & Cooper, Camden 2, N. J. IEN-0782

CONDUCTORS . . Colloidal graphite properties and application data for electronic and electric products. Bulletin 433, 6 pages. Acheson Colloids, 2000 Washington, Port Huron, Mich. IEN-0783

CONDUCTORS . . Electric wire and cable for mining service; types, cut-away views, ratings. Bulletin 19-420, 24 pages. General Electric Co., 1285-87 Boston Ave., Bridgeport 2, Conn. IEN-0784

CONDUIT FITTINGS . . For electric power cable; types, sizes, list prices, also terminals, connectors. Catalog 130, 68 pages. O. Z. Electrical Mfg. Co., 260-64 Bond St., Brooklyn 2, N. Y. IEN-0785

CONNECTORS . . Pothead fittings for electric cable, 600 to 34,500 volts; models, list prices. Bulletin AB-51, 76 pages. G & W Electric Specialty Co., 7782 Dante Ave., Chicago 19, Ill. IEN-0786

CONTRACT WORK . . In aluminum fabricating; examples of formed and welded parts, notes on facilities. Folder, 4 pages. Arlington Aluminum Co., 19009-13 W. Davison, Detroit 23, Mich. IEN-0787

CONTRACT WORK . . In electronic, electrical, mechanical equipment for industry and ordnance; examples, facilities. Folder, 4 pages. Buck Engineering Co., 39 Marcy St., Freehold, N. J. IEN-0788

CONTRACT WORK . . In metal stamping, fabricating, assembly; plant facilities, product examples. "Stamping," 16 pages. Globe Stamping Div., 1248-52 W. 76th St., Cleveland 2, Ohio IEN-0789

CONTRACT WORK . . Facilities for defense work by a maker of process machinery; examples. "Facilities Folder," 6 pages. J. M. Lehmann Co., 548-52 New York Ave., Lyndhurst, N. J. IEN-0790

CONTRACT WORK . . In electronic and electro-mechanical equipment; illustrated facilities, examples. Facilities Bulletin, 8 pages. Magnavox Co., Building 15, Fort Wayne, Ind. IEN-0791

CONTRACT WORK . . In electronic equipment; facilities for defense work on direct order to government agencies. Report, 16 pages. Sarkes Tarzian Inc., 413-17 N. College, Bloomington, Ind. IEN-0792

CONTRACT WORK . . By maker of fabricated metal parts; picture examples, illustrated plant facilities. "At Your Service," 8 pages. Union Steel Products Co., 405 Pine St., Albion, Mich. IEN-0793

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7219 if you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

OIL DISPENSING . . "One-man" mobile unit for handling oils and coolants

Designated the Houdaille Oil Dispensing Unit, new vacuum-pressure assembly offers clean, simple method of transferring oil from drums to machine tool reservoirs or sumps; transferring oil between drums; removing oils or coolants from tanks for dispensing to machine tool sumps. Unit adaptable to many other liquid handling problems.

Fully enclosed vacuum pump and ½ hp. motor, mounted on strong steel wheels equipped with roller bearings, are operated by a single manual switch. Three-way valve permits quick change-over from vacuum to pressure side of pump as needed. No liquid or abrasives pass through pump to cause wear or stoppage. An airtight lid for open-top drums, equipped with Mercoid liquid level control, prevents overflow and spillage. Pivoted platform is designed for easy loading and unloading of standard 55 gallon oil drums.

One man can easily operate unit at considerable savings in time and labor. Ideal for use where many individual sumps require servicing.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

BREVITY—Identify by IEN - 7220 if you write the maker

100% CONCENTRICITY AND HARDNESS TESTS ASSURE ACCURACY—SUPERFINISH BORES ASSURE LONG LIFE OF UNIVERSAL DRILL BUSHINGS

153-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

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TAKE THE SHACKLES OFF PRODUCT IMPROVEMENT!

with "Double-Enveloping" Cone-Drive Gears

Double-Enveloping means more teeth IN CONTACT since the worm or pinion is wrapped around the gear ($\frac{1}{16}$ of all gear teeth are always in contact).

Double-Enveloping means MORE CONTACT PER TOOTH since the gear is wrapped around the worm or pinion (continuous FULL DEPTH area contact).

Double-Enveloping, therefore, means not only increased load capacity for any given center distance, but also an HYDRAULICALLY SMOOTH power flow.

Double-Enveloping gears and reducers are so simple to use, too, as shown in Bulletin #789-50. Ask for a copy.

CONE-DRIVE GEARS
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
Division Michigan Tool Company
7171 E. McNichols Road • Detroit 12, Michigan

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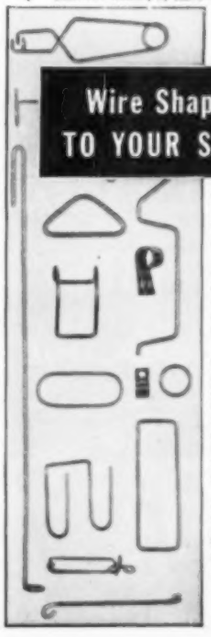

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● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
(Formerly JESCHKE Wire and Specialty Company)
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

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Quadriga® SPECIAL WASHERS AND STAMPINGS

CUSTOM-FABRICATED FOR YOUR PRODUCTS

Quadriga washers and stampings are made to your precise specifications—to fit your particular needs. We'll quickly supply you with any quantity of flat washers; tension, spring, formed, drawn, cupped or finishing washers of any washer material. Also, stampings of any material in any design. Press capacity to 150 tons, depth of draw to 4". We build dies. Send B/P, samples, or data today for a prompt estimate.

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INCREASES TAP LIFE by Guided Accuracy

Quickly pays for itself on small-lot tapping operations. Insures accurately tapped holes, increases work output—practically eliminates tap breakage and removal. Has slotted base for fixtures. Special steel machined parts. Long spindle bearing provides accurate alignment and long life. Four hardened collets, furnished, handles standard tap shank sizes from No. 0 through ¼". Either right or left hand taps may be used. Finished in machine-tool gray. Write for circular.

$20.50 POSTPAID

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KALAMAZOO, MICH.

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No More Frozen or Galled STUDS (even at 1800 F.!) Try this Amazing Money Saver.

FREE Test Sample of the NEW FEL-PRO C-5 "HI-TEMP" THREAD COMPOUND

Eliminates Pitting of Stainless and Alloy Steels at all Temperatures!

CUT costly stud breakage, heater dismantling time, pitting of metal surfaces!

We'd like to send you a free sample of the new Fel-Pro C-5 "Hi-Temp" Thread Compound to try on your toughest thread compound problems, including alloy and stainless steels. Then you can see the amazing, money-saving results being obtained by the nation's largest refineries, utilities and process industries. Fel-Pro's exclusive Colloidal-Copper formula keeps metal parts separated, regardless of temperatures. Its neutral action solves the alloy and stainless steel pitting problems. One utility company reports that heater dismantling time has been cut from two days to four hours, by the use of Fel-Pro C-5 "Hi-Temp". Why not see what "Hi-Temp" can do for you . . . get your free sample and complete data sheet—*write today!*

FELT PRODUCTS MFG. CO.
1523 Carroll Ave., Chicago 7, Illinois

NEW LITERATURE—Continued

"Addresses so you can write direct"

CONTROLS . . "Tanktrol" units for pumps delivering to elevated tanks; operating schematics, models. Bulletin 1100, 4 pages. Automatic Control Co., 1003-7 University Ave., St. Paul 4, Minn. **IEN-0794**

CONTROLS . . "ElectronIK" potentiometer temperature controls; principle, operation, selection. Catalog 15-15, 36 pages. Brown Instruments Div., 4456 Wayne Ave., Philadelphia 44, Pa. **IEN-0795**

CONVEYING . . "Streamliner" gravity roller conveyors; specifications, accessories, applications. Bulletin 100, 16 pages. Harry J. Ferguson Co., 190 West Ave., Jenkintown, Pa. **IEN-0796**

CONVEYING . . Apron, belt, chute, roller types; notes on data sheets available for your use. "Cost Analysis Forms," 4 pages. Logan Co., 1113-17 Franklin St., Louisville 6, Ky. **IEN-0797**

CONVEYING . . Gravity and power conveyors, trucks, casters; illustrated data, application notes. Catalog GC-51-A, 24 pages. Rapids-Standard Co., 342 Rapistan Bldg., Grand Rapids 2, Mich. **IEN-0798**

CORROSION PROOFING . . Line of tar, plastic, rubber-base materials for metal; properties, uses. Bulletin, 16 pages. Pittsburgh Coke & Chemical Co., 1700 Grant Bldg., Pittsburgh 19, Pa. **IEN-0799**

COUNTING . . Electronic component for computers and pulse equipment; operation schematics. "Static Magnetic Memory," 12 pages. Alden Products, 115-19 N. Main, Brockton 64, Mass. **IEN-0800**

CRANES . . Crawler-type crane and ⅝ yd. shovel; construction features, modifications, picture uses. Catalog 37-45A, 20 pages. Bay City Shovels Inc., 2502 Center Ave., Bay City, Mich. **IEN-0801**

CRANES . . Model-150 crawler crane; three-page load-radius chart with 30-ft. boom, details. Bulletin X65-10, 8 pages. Harnischfeger Corp., 4402 W. National Ave., Milwaukee 14, Wis. **IEN-0802**

CRANES . . Rubber-tire crane, hydraulic operation; construction, attachments, specifications, typical uses. Folder 51-C, 4 pages. Mandt Mfg. Co., 490-94 W. Goodale St., Columbus 8, Ohio **IEN-0803**

CRANES . . Model-357 pneumatic-tire mobile crane; specifications, work-range diagrams. Bulletin L-301, 6 pages. Unit Crane & Shovel Corp., 6409-13 W. Burnham St., Milwaukee 14, Wis. **IEN-0804**

CUTTING . . Ground-from-the-solid carbide burs, end mills, reamers, boring bits; illustrated descriptions, sizes. Catalog A-240, 20 pages. Atrax Co., 238-42 Day St., Newington 11, Conn. **IEN-0805**

DIE CASTING . . Automatic machine with 1-lb. capacity in zinc; specification table, description. "One-Pound Machine," 4 pages. A.B.C. Die Casting Co., 337-43 W. 112th Pl., Chicago 28, Ill. **IEN-0806**

DOORS . . Steel rolling doors, fire doors, folding doors, grilles; dimensions, layouts, operators. Bulletin 68, 32 pages. Kinnear Mfg. Co., 4002 Fields Ave., Columbus 16, Ohio **IEN-0807**

DRILLING . . ASA standard drill jig bushings; types, sizes, list prices, accessories. "American Lasosal," 4 pages. American Drill Bushing Co., 5105-9 Pacific Blvd., Los Angeles 58, Calif. **IEN-0808**

DRIVES . . "Torque-Arm" speed reducers; selection table on models to 27 hp., also V-belt drive data. Bulletin A-692-B, 12 pages. Dodge Mfg. Corp., 500 S. William St., Mishawaka, Ind. **IEN-0809**

DRIVES . . Leather transmission belts; types, properties, application instructions. "Treaded Leather Belting," 16 pages. E. F. Houghton & Co., 301-5 W. Lehigh, Philadelphia 33, Pa. **IEN-0810**

DRIVES . . Gears in fractional horsepower sizes; chart of types and scope, picture examples, shop facilities. "Certified Gears," 4 pages. Rynel Corp., 2717 Montrose, Sterling, Ill. **IEN-0811**

DRYING . . "Turbo" vertical transfer dryer for process materials; operation, heating arrangements. Bulletin 1506, 6 pages. Wyssmont Co., 31-04-V Northern Blvd., Long Island City 1, N. Y. **IEN-0812**

DUST COLLECTING . . "Precipitron" Type-PE electrostatic unit, integral housing; operation. Bulletin DB 93-820, 8 pages. Westinghouse Electric Corp., 202 Readville St., Boston 36, Mass. **IEN-0813**

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A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

A TOOL CRIB CONTROL SYSTEM THAT PAYS FOR ITSELF

It's actually easier, and takes less work, to maintain *complete* control over tools than to rely on makeshift routines. And the small investment it takes to set up an effective Tool Crib System is quickly amortized (1) through assured availability of tools, accurately scheduled to meet production line demands; (2) through numerous savings, readily demonstrated, on tool purchase, use, repair, and maintenance; (3) through reduced tool crib personnel.

Remington Rand offers a free booklet which shows in detail how many firms get these practical results. Remington Rand Tool Crib Systems keep paperwork at an absolute minimum – simplify the filing and finding of records by tool, and by worker, and give you at all times a *visible* picture of your tool supply status.

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BREVITY—Identify by IEN - 7227 if you write the maker

ACCURATE INFORMATION IS VITAL WHEN YOU DEAL WITH TEMPERATURE and RELATIVE HUMIDITY!

. . . Rely On Bendix-Friez

With the Bendix-Friez portable humidity and temperature recorder, 10 or 30 hour records may be kept on convenient 3" x 5" charts. Compact design and superior precision make this handy instrument ideal for taking on-the-spot recordings covering any productive process or plant condition. For more detailed information write to:

Model 160
Portable Humidity and Temperature Recorder

FRIEZ INSTRUMENT DIVISION of
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Export Sales: Bendix International Division, 72 Fifth Ave., N. Y. 11, N. Y.

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DRYBROW

"The Nation's Sweat Band" takes the "lag" out of hot temperature production. More is produced . . . workers are happier, cooler—more comfortable on the job.

Check exclusive DRYBROW features that make it the sweat band preferred by workers coast to coast.

Write for free sample Drybrow today.

The AMERICAN ALLSAFE COMPANY, INC.
1245 Niagara Street Buffalo 13, N. Y.

BREVITY—Identify by IEN - 7229 if you write the maker

The Only Carbide Tool THAT NEEDS NO SHARPENING

INDEXABLE KENNAMETAL TIP HAS 4 CUTTING EDGES

4 STOCK STYLES

Here is the answer to the long-standing need for carbide tools in plants where there is no grinding equipment, where facilities are overloaded, or where grinding costs are known to be excessive.

The long-lasting Kennametal tip, mechanically held to provide a thermal-strain-free assembly, can be indexed as required to utilize all cutting edges. It then may be discarded, if desired.

Available in four sizes—½", ⅝", ¾", and 1"—in styles shown at left. Suitable for high-rate machining of steel, cast-iron, and non-ferrous materials.

SEND FOR CATALOG 49

KENNAMETAL Inc.
Latrobe, Pa.
MANUFACTURERS OF SUPERIOR CEMENTED CARBIDES AND CUTTING TOOLS THAT INCREASE PRODUCTIVITY

BREVITY—Identify by IEN - 7230 if you write the maker

For stock sizes, load ratings, prices, see Boston Gear Catalog No. 55, mailed free on request.

Only BOSTON gears

Fully Self-Aligning, Precision Ball Bearing

PILLOW BLOCKS

Have the **SAFETY-VENT-SEAL**

Unique labyrinth seal automatically controls correct amount of lubricant and prevents blowing out of seals. Keeps lubricant in, dirt out.

Housing is of genuine Boston Gear iron — provides a solid mounting in any position.

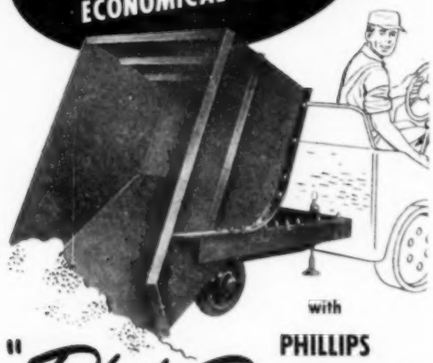
Spherically ground outside dia. of bearing surface assures accurate alignment of shafts, quick mounting, easy installation.

From Nearby Stock — Boston Gear Pillow Blocks and Flanged Cartridges stocked by 80 Authorized Distributors — one near you.

BOSTON GEAR WORKS
63 HAYWARD ST., QUINCY 71, MASS.

BREVITY—Identify by IEN - 7231 if you write the maker

HANDLE MATERIALS THE EASY-FAST-ECONOMICAL WAY!



with PHILLIPS

"Phil-Dumps"

Phillips "Phil-Dump" Trailers of dependable heavy steel construction, are built for long service life in hauling and dumping all types of industrial products and materials. Used with a tractor, they are quickly emptied by lever release and automatically return and lock in original position. Available with pneumatic or solid rubber tires in ½ to 3 cu. yd. capacities.

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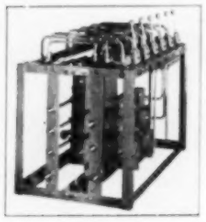
MANUFACTURERS SINCE 1863 **PHILLIPS** MINE AND MILL SUPPLY COMPANY PITTSBURGH, PA.

MATERIALS HANDLING EQUIPMENT
2300 JANE STREET • PITTSBURGH 3, PA.

BREVITY—Identify by IEN - 7233 if you write the maker

DISPENSING . . Hydraulic equipment measures and delivers lubricating oil

Source: J. N. FAUVER CO.
45 W. Hancock Ave., Detroit 1, Mich.



Six cylinders are mounted in banked assembly in a structural frame in this new lubricating-oil dispenser. Each cylinder is provided with stroke adjustment and connects through a 4-way valve to a pressure source for the oil. Flow through the valves into the cylinders and out through the valves to a point of delivery connects to single inlet and outlet lines so a desired amount of lubricant can be selected, as in filling the transmission housing on a motor vehicle.

Incoming pressure operates the pistons when the outlets are opened for delivery of the oil on one side of the piston. Return stroke fills the side just emptied and pressure applies against the piston to drain the side previously filled.

BREVITY—Identify by IEN - 7234 if you write the maker

MOTOR . . Miniature ac. design designed and produced to specification

Source: HERTNER ELECTRIC CO.
12688-92 Elmwood Ave., Cleveland 11, Ohio

As specified to be built in

The company announces addition of a new line of miniature ac. flange-mounted motors in which diameters of five basic types now in production are 1 to 4⅝ inches. The motor can be supplied for operation on ac. at 10 cycles or more for constant or variable speed on single or three-phase circuits to 550 volts. Construction includes 2 to 8 poles.

BREVITY—Identify by IEN - 7235 if you write the maker

HOSE CLAMP . . Steel band design, pivoted screw, sizes ½ to 3 inches

Source: IDEAL CORP.
431-5 Liberty Ave., Brooklyn 7, N. Y.

Worm threads on the pivoted tightening screw in this new clamp engage perforations in the plated steel band when the screw is hinged downward into contact with the band. A few turns complete the tightening operation.

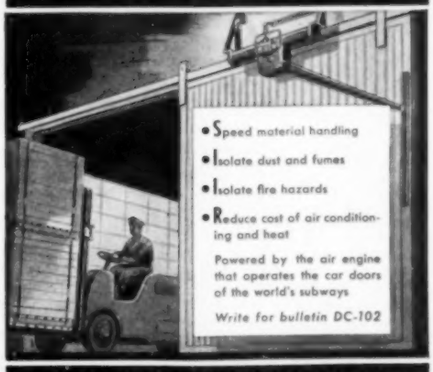
To remove the clamp, the screw is loosened and then hinged upward so the bands can snap open. The screw, its supporting base and the band are heat treated and plated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

BREVITY—Identify by IEN - 7236 if you write the maker

NP PRE-ENGINEERED *Pneumatic*

DOOR OPERATORS



- Speed material handling
- Isolate dust and fumes
- Isolate fire hazards
- Reduce cost of air conditioning and heat

Powered by the air engine that operates the car doors of the world's subways

Write for bulletin DC-102

NATIONAL PNEUMATIC CO., INC.
Boston • Graybar Bldg., New York • Chicago

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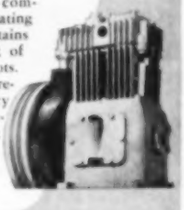
Keeping Your QUINCY Compressor Running is Our Job

AUTHORIZED Quincy COMPRESSORS SERVICE

That's right! It's our responsibility to see that you get maximum service from your Quincy Compressor. To help keep your air compressor at peak operating efficiency, Quincy maintains a nation wide network of Authorized Service Depots. These depots carry a representative line of Quincy parts. Each depot is prepared to give you fast efficient service. You can depend on it!



Quincy COMPRESSORS

QUINCY COMPRESSOR CO., Dept. H-19, Quincy, Illinois
Branch Offices: New York • Philadelphia • Chicago • St. Louis • Dallas • San Francisco

BREVITY—Identify by IEN - 7238 if you write the maker

GOOD.....FOR ALL PRESSURES

Yarway Impulse Steam Traps are suitable for any pressure up to specified maximum *without change of valve or seat.* Types available up to 1500 lbs. Simplifies installation and maintenance. Over 650,000 Yarway Traps already *proved on the job.* Sold by over 200 distributors. Bulletin T—1740 free.

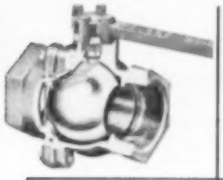
YARWAY Impulse Steam Trap

YARNALL-WARING CO. 122 MERMAID AVENUE, PHILA. 18, PA.

BREVITY—Identify by IEN - 7239 if you write the maker

Exactly **RIGHT FOR THE JOB.. ROCKWOOD Ball VALVES**

FULL ROUND FLOW • LEAK PROOF •
Quick Opening and Closing • No Maintenance



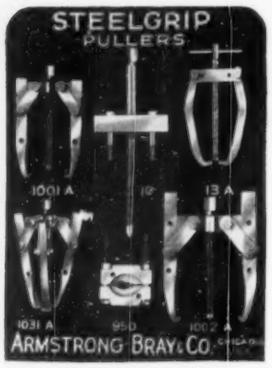
Rockwood Ball Valve made of bronze with screwed ends is available in ½" to 2" pipe sizes. 300 p.s.i. working pressure. For service in oil refineries, food, paper, textile, chemical, rubber, and many other plants.

Rockwood Cast Steel Ball Valve available in 3" and 4" pipe sizes. Recommended for refinery, pipe line and general use. 300 W. O. G.

Send today for Folder V-4

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN - 7240 if you write the maker



The 6 most needed pullers

A Complete Package Unit . . .

These popular pullers come on a permanent steel tool rack. The sizes and types of STEELGRIP Gear, Wheel and Bearing Pullers most frequently needed in tool room, maintenance shop and garage are now packaged on this practical heavy gauge fitted steel board. With these drop forged quality tools, you can pull wheels, gears, pulley pinions and bearings off from shafts easily and quickly without battering or breakage.

Pullers are cadmium plated; board finished in deep blue "hammered finish" with gold trim.

Write for catalog of Standard and Special Wheel Pullers.

ARMSTRONG-BRAY & CO.
5380 Northwest Highway, Chicago 30, Illinois

BREVITY—Identify by IEN - 7241 if you write the maker

HEAT When and Where You Want It

WATLOW CARTRIDGE UNITS

For a highly concentrated, self-contained mass of heat

APPLICATION—For heating metal parts by insertion into drilled and reamed holes. Sealed ends available, permit use for immersion purposes.

CONSTRUCTION—Nickel chromium resistor is wound on refractory core and embedded in high heat conductivity cement. Brass, steel, monel, or stainless steel sheaths.

TERMINALS—Rigid (several styles and sizes) or flexible (special lugs if desired).

RATINGS—Densities 10-35 watts per sq. in.

WRITE for Watlow Electric Heating Units Catalog.

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW
ELECTRIC MANUFACTURING COMPANY
1318 N. 23d St. St. Louis 6, Mo.

BREVITY—Identify by IEN - 7242 if you write the maker

S.S.WHITE ELASTOPLASTIC ALEMITE FITTING CAPS

These inexpensive plastic caps prevent dirt from lodging on the tips of alemite fittings and being forced into the bearing when the grease gun is applied.

They're ideal for dirty or gritty operations. They're long lasting, retain their flexibility and are unaffected by oil, grease or gasoline.

They're FLEXIBLE
- *Easy on*
- *Easy off*
- *Stay put*

Sizes for button head, zerk or hydraulic and 1/8" dot type fittings. For details and prices,

WRITE FOR BULLETIN P-5103

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

NEW LITERATURE—Continued

"Number of pages tells you the size"

ENGINES . . Starting-fluid capsules for diesel and gasoline engines in below-zero weather; instructions. "Chevron Fluid," 24 pages. California Oil Co., 1202 State St., Barber, N. J. **IEN-0814**

ENGINES . . Diesel, 265 to 500 hp. in four designs; picture book of applications by service. Bulletin 30020, 16 pages. Caterpillar Tractor Co., 602 W. Washington, Peoria 8, Ill. **IEN-0815**

EQUIPMENT . . And products made by the company's divisions are illustrated and described. "Bendix and Your Business," 40 pages. Bendix Aviation Corp., 3011 W. Grand, Detroit 2, Mich. **IEN-0816**

FASTENINGS . . Helical-wire thread inserts for tapped threads in soft materials; specification tables. Bulletin 650-R, 16 pages. Heli-Coil Corp., 47-150 35th St., Long Island City 1, N. Y. **IEN-0817**

FASTENINGS . . Solid-fluxed welding studs for arc-gun application; application steps, sizes, uses. Catalog 1001, 8 pages. KSM Products Inc., 6510-14 Park Ave., Merchantville 8, N. J. **IEN-0818**

FASTENINGS . . In stainless steel, also pipe, valves, fittings, containers; data tables. "Stainless Steel Products," 64 pages. Schnitzer Alloy Products, 323-27 Pine St., Elizabeth 1, N. J. **IEN-0819**

FASTENINGS . . Lockwashers, alone or pre-assembled on screws, nuts, also specials; pictures, uses. "Assembly Suggestions," 24 pages. Shakeproof Inc., 2503 N. Keeler Ave., Chicago 39, Ill. **IEN-0820**

FASTENINGS . . "Tufflok" fibre-insert and "Nylock" nylon-insert locknuts; properties, sizes. Folder TL-63, 4 pages. Townsend Co., 49 Industrial St., Dept. 116, New Brighton, Pa. **IEN-0821**

FASTENINGS . . Retaining rings for radial assembly without pliers; types, dimensions, suggestions. Bulletin 7, 8 pages. Waldes Kohinoor Inc., 47-18 Austel Pl., Long Island City 1, N. Y. **IEN-0822**

FLOORS . . Adjustable loading ramp with electric-hydraulic operation; data on two models. Folder GP-100, 4 pages. Green-Penny Co., 423-27 E. Washington Blvd., Los Angeles 15, Calif. **IEN-0823**

FOUNDRY EQUIPMENT . . Series-500 jolt rock-over pattern-draw machine; illustrated details on six models. Bulletin 500, 4 pages. SPO Inc., 6452 Grand Division Ave., Cleveland 25, Ohio **IEN-0824**

GAGES . . "Zimmerli" manometer for pressure of 0 to 100 mm.; operation, models. Bulletin Z-251, 4 pages. Scientific Glass Apparatus Co., 120 Lakewood Ter., Bloomfield, N. J. **IEN-0825**

GRINDING . . Contact wheel with spiral teeth to support abrasive belt; performance, list prices. "61 Contact Wheel," 4 pages. Carborundum Co., 1942 Buffalo Ave., Niagara Falls, N. Y. **IEN-0826**

GRINDING . . Rotary automatic surface grinding machines; illustrated features, examples of work. Bulletin 147-1, 12 pages. Hanchett Mfg. Co., 904-8 N. State St., Big Rapids, Mich. **IEN-0827**

GRINDING . . Machine to grind inserted-blade milling cutters; description, instructions, suggestions. Manual 58, 48 pages. Ingersoll Milling Machine Co., 2405 Douglas St., Rockford, Ill. **IEN-0828**

GRINDING . . "Race-A-Way" No. 2 cylindrical grinding machine for bearing raceways; detail description. Catalog R-51, 16 pages. Landis Tool Co., 26 E. Sixth St., Waynesboro, Pa. **IEN-0829**

HANDLING . . "Safe-T-Tongs" for material handling; story example on use in handling steel. "How Diamond Chain . .", 4 pages. Heppenstall Co., 4618-22 Hatfield St., Pittsburgh 1, Pa. **IEN-0830**

HANDLING . . "Payloader" Model-HA tractor-shovel, 12 cu. ft. capacity; construction points, specifications. Catalog 207, 12 pages. Frank G. Hough Co., 841 7th St., Libertyville, Ill. **IEN-0831**

HANDLING . . Collapsible boxes of 2-in. wire mesh, also wire mesh pallets; sizes, applications. Bulletin MH-15, 8 pages. Pittsburgh Steel Products Co., P. O. Box 118, Pittsburgh 30, Pa. **IEN-0832**

HANDLING . . Sealable aluminum bin to handle, ship, store bulk material; description, illustrated uses. Bulletin DM-2, 4 pages. Tote System Inc., 702 S. Seventh St., Beatrice, Neb. **IEN-0833**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7243 if you write the maker

A PAID NEWS ADVERTISEMENT BY BYRON JACKSON CO.

BJ BILTON PUMP with STEAM TURBINE DRIVE . . .

brings close-coupled pump installation advantages to steam power users

This new Steam Turbine Driven BJ Bilton Pump is a close-coupled combination of the Byron Jackson TL Bilton Pump and a Moon Steam Turbine. It provides a compact, general-purpose pumping unit for plants using steam as their primary power. Also serves as standby pump in plants where steam is used as emergency power. Features include: *Simplified installation*—mounts in any position, no rigid foundation necessary; *Efficient operation*—steam turbine allows close regulation of power, even at high speed, and assures economy under variable loads; *Easy to service*—interchangeability of all basic parts means small inventory can service many pumps.

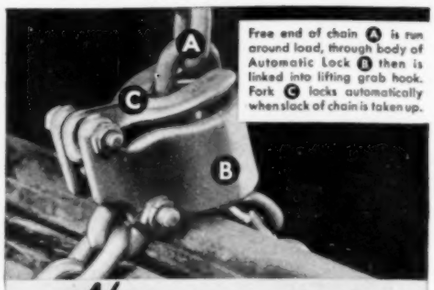
APPLICATION—for low to medium-high head service. Standard models recommended for water supply, air conditioning, and general liquid handling. *Pump sizes* from 1¼" to 3".

CAPACITIES to 600 gpm. **HEADS** to 320 ft.

Also available in special construction . . . including BJ Mechanical Seal for handling liquids with special temperature, chemical or pressure factors.

BYRON JACKSON CO.
PUMP DIVISION
P.O. Box 2017, Terminal Annex, Los Angeles 54, Calif.
OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 7244 if you write the maker



New AMERICAN BUNDLING CHAIN with Automatic Lock

A complete unit . . . ready to use. Eliminates links, shackles, pins, wires. ***Speeds Material Handling.*** Bundles can be made up quicker, handled faster and safer, and stored indefinitely without loosening. Simple to unlock and unhitch. ***Write** today for Bulletin **DH-266** on ACCO Bundling Chain with drop-forged Automatic Lock (Patent Pending).*

ACCO York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

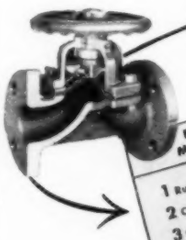
AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE
In Business for Your Safety

BREVITY—Identify by IEN - 7245 if you write the maker

WHAT WOULD YOU SPECIFY ?

Fluid	Concentration	Temp.	Type of Valve	Valve Material
1 Sulphuric Acid	20%	120 F.		
2 Sulphuric Acid	100%	180 F.		
3 Hydrochloric Acid	32%	80 F.		
4 Hydrofluoric Acid	50%	125 F.		
5 Beer		200 F.		
6 Oxygen		Ambient		

We supplied Grinnell-Saunders Diaphragm Valves with . . .



Body Material	Diaphragm Material
1 Rubber lined	Natural rubber
2 Cast iron	KEL-F
3 Glass lined	Butyl
4 Magnesium	KEL-F
5 Polished bronze	White diaphragm
6 Cast iron*	Neoprene

*For oxygen service a low flash point lubricant is supplied. All valves for oxygen service are subjected to 300 lb. air underwater test.

In several of these cases other body materials or diaphragms might serve. Really important is the versatility of Grinnell-Saunders Diaphragm Valves in handling corrosive fluids, gases, compressed air, food, suspended solids . . . where corrosion, abrasion, contamination, clogging, leakage, maintenance are problems.

Grinnell-Saunders Valve bodies are stocked in cast iron, malleable iron, stainless steel, bronze, and aluminum, with other materials available on special order. Valve bodies can be lined with lead, glass, natural rubber or neoprene. Diaphragms are available of natural rubber and a number of synthetics to suit particular service conditions.

Features of the Grinnell-Saunders Diaphragm Valve

* diaphragm absolutely isolates working parts from fluid * diaphragm lifts high for streamlined flow in either direction * diaphragm presses tight for positive closure * body, lining and diaphragm materials to suit service * simple maintenance — diaphragm easily replaced.

GRINNELL
WHENEVER PIPING IS INVOLVED
Grinnell Company, Inc., Executive Offices, Providence, R. I.
Sales Offices and Warehouses in Principal Cities

BREVITY—Identify by IEN - 7247 if you write the maker

The "M" Series valves are approx. 4⅛" high, yet have extremely fast action and large capacity for liquids, air and inert gases! They have soft insert seats to prevent leakage — will operate in any position— nylon fabric coated diaphragm for long life—max. power consumption 10 watts—continuous duty! **M-2** two-way normally closed —5 to 150 p.s.i.—port size ⅜" or ½"; orifice ⅜"—pilot operated. **M-3** three-way normally closed, three-way normally open or directional flow—20 to 150 p.s.i.—port size ⅜" or ½"; orifice ⅜"—pilot operated. Special models available.

Write for Bulletin No. 493

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

BREVITY—Identify by IEN - 7248 if you write the maker

"A little neglect may breed a great mischief." —Ben Franklin's Almanac, 1757

Inefficiency and waste lay taxes with a heavier hand than Ye Collector of Internal Revenue. If thee get rid of the former, thee may better bear the latter. —Acme Steel Notebook, 1951

Now, more than ever, it will pay you to take special heed of your packaging, shipping, and materials handling operations.

For right now, the demand for Acme Steelstrap and Acme Silverstitch Wire far exceeds the available supply. Increased civilian consumption and increased military needs make it impossible for Acme Steel to meet all the needs of our more than 50,000 customers.

To make the best use of the supply of Acme Steel products available to you, let your Acme Steel representative work with you on ways to increase efficiency and minimize waste. Let him show you how to keep your tools and equipment in shape and on the job.

There are no shortages in Acme Steel's experience or ingenuity, or in our willingness to help you—the way we have helped our customers solve their problems in the past 71 years.

Reference material on Acme Steel products and services is available on request.

ACME STEEL COMPANY
Dept. IEN-71, 2838 Archer Avenue, Chicago 8, Illinois
We have 41 service offices in the United States and Canada. If one is not listed in your telephone directory, write us.

ACME STEEL

Our strapping exhibit at The Chicago Museum of Science and Industry is visited each year by more than a million people. Have you seen it yet?

3 things you can do to keep your Acme Steel Strapping Tools on the job:

1. Clean and oil every week.
2. Check and clean gripping dogs weekly. Replace when teeth are worn.
3. Detect worn punches and jaws early by checking sealed joints regularly. If in doubt, submit samples, identified by model and serial number, to Customer Service Department, Acme Steel Company.
4. Keep parts list and supply of spare parts handy to make minor repairs. Additional parts lists supplied upon request.
5. Ask us about the Acme Steel "3-WAY SERVICE PLAN" for equipment repairs.

ACME STEELSTRAP flat steel strapping and ACME UNIT-LOAD carload bracing BAND, SEALS and TOOLS • ACME SILVERSTITCHERS and ACME SILVERSTITCH WIRE for box stitching • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME-CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slat stock for Venetian blinds • ACME STEEL SPECIALTIES, including hoops, corrugated fasteners, barbed box straps, nail-on strapping and other container reinforcements • ACME STEEL ACCESSORIES—snips, tool mounts, reel stands, coil holders, coil trays.

BREVITY—Identify by IEN - 7250 if you write the maker

TRUCK . . Rotating roll attachment for use on company's 1 ton truck

Source: CLARK EQUIPMENT CO. Battle Creek 49, Mich.

Hydraulic clamping and rotation are combined in this new roll-handling attachment in similar design to the larger unit for 1½ and 2½ ton trucks, previously described IEN - 10226-50. Rotation is through 90 deg. so a roll can be picked up from horizontal position and stood on end or vice versa. The attachment is designed to handle rolls weighing as much as 1,500 lb. on the Model-2024 truck or to 950 lb. on the Model-2015 unit. The complete attachment can be removed from the truck for use interchangeably with standard forks.

BREVITY—Identify by IEN - 7251 if you write the maker

PYROMETER . . Accessory units for use in high and low temperatures

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO. 4456 Wayne Ave., Philadelphia 44, Pa.

Each available to specification

Five accessory items are now available for use with the company's line of pyrometers. These include a cast-iron closed-end protecting tube for use in molten aluminum, a 1-in. tube for heat-treating furnaces and for salt and lead-hardening baths and gas burners at temperatures to 1,800 deg. F., a two-conductor copper-constantan thermocouple wire for refrigeration applications, a portable immersion removable-tip thermocouple to measure temperatures of molten steel in foundry holding and transfer ladles, and a 20-gage two-conductor insulated extension with standard ISA wire color coding in both iron-constantan and chromel-alumel components.

BREVITY—Identify by IEN - 7252 if you write the maker

STORING . . Steel-wood shelving supplements company's steel equipment

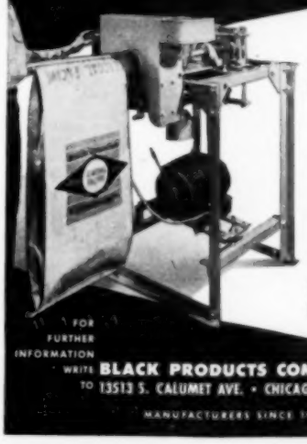
Source: LYON METAL PRODUCTS INC. 1734 Montgomery St., Aurora, Ill.

Steel uprights support shelves made of hard wood with the aid of clips that attach to each shelf in this new steel-wood combination. Standard dimensions are 3 ft. in width, 1 or 1½ ft. in depth and 7 ft. in height. The shelf-supporting clips apply in perforations in the uprights so the shelves can be positioned at desired vertical intervals or changed as conditions require.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7253 if you write the maker

BLACK DIAMOND AUTOMATIC CONTROLLED WEIGHT
valve bag packer

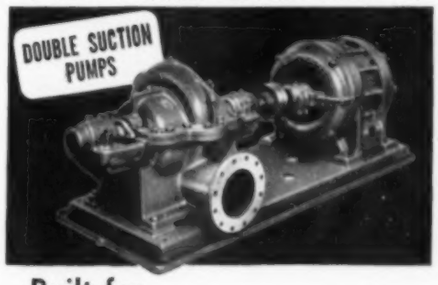


Accurate • Fast
Simple to operate
Push-button control
Material agitating feed hopper
Position of bag on filling tube does not affect final bagged weight
Moderately priced
★
PERFORMANCE GUARANTEED
★

FOR FURTHER INFORMATION WRITE **BLACK PRODUCTS COMPANY** TO 13513 S. CALUMET AVE. • CHICAGO 27, ILL.

MANUFACTURERS SINCE 1912

BREVITY—Identify by IEN - 7254 if you write the maker



Built for LOW MAINTENANCE

GENEROUS CONSTRUCTION with extra metal thicknesses, extra strong parts, extra construction features and extra careful workmanship means lower pumping costs for you. Every pump tested on most modern equipment in industry. Each installation individually engineered.

Horizontally split casing, ball bearings, balanced impeller, wearing rings, hand finished water passages, cast shaft sleeves, generous stuffing box length. Choice of iron, bronze, stainless steel.

Standard sizes from 10 to 7000 gpm with 475 foot head. Larger sizes available. For complete information, call your Allis-Chalmers Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin for bulletin 08B6146.

A-3320

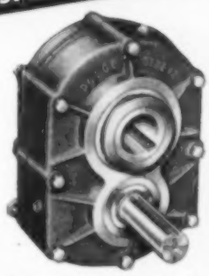
ALLIS-CHALMERS

BREVITY—Identify by IEN - 7255 if you write the maker

NEW!

A SINGLE REDUCTION TORQUE-ARM SPEED REDUCER—

FOR SPEEDS 115 TO 330 R.P.M.



This new SINGLE Reduction Torque-Arm Speed Reducer provides the same big advantages in this range that its companion, the Dodge Double Reduction Torque-Arm, has brought to the field of lower speeds. No special engineering required. No foundation to provide. No flexible couplings or sliding base. No "lining-up" difficulties. Torque arm, fastened to floor or any fixed object, anchors reducer unit. Turnbuckle provides fast, accurate adjustment of belt tension.

Four sizes . . . all available from stock with stock product economy . . . with capacities up to 27 H.P. and developing output speeds from 115 to 330 r.p.m. Write us for Bulletin A602 with details, specifications, easy-to-use selection tables.

DODGE MANUFACTURING CORPORATION, 600 Union Street, Mishawaka, Indiana

DODGE
of Mishawaka, Ind.
FIRST IN POWER TRANSMISSION MACHINERY

BREVITY—Identify by IEN - 7256 if you write the maker

AIR DRILLS to fit the task!

When the task can best be done by an abundant flow of smooth power, use Ingersoll-Rand Air Drills. Whether it's running a large tap as shown above, or drilling small holes in very light sheet metal, there is an I-R Air Drill available to handle your job.

Over one hundred different sized I-R Air Drills, all rationally designed and precision built, are ready and waiting to handle practically any drilling, reaming, or tapping job you encounter.

Equip your workmen with I-R Air Drills today. A call to your Ingersoll-Rand branch office will bring you the facts on the complete line of I-R Air Tools—ask one of our Air Tool Specialists to show you how Air Tools now pay for themselves nearly twice as fast, and enable the workman to do more work with less effort.

AIR POWER Key To Lower Production Costs

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

BREVITY—Identify by IEN - 7257 if you write the maker

MODERN
INDUSTRIAL COUNTERS

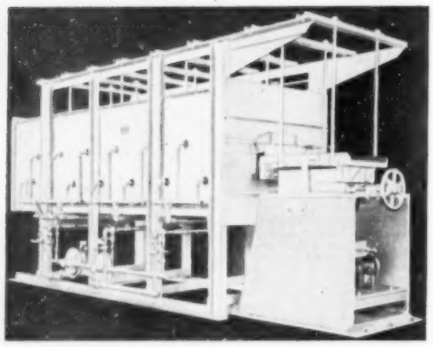
Rugged as an Army tank. Work smooth as a watch.
Precision built—for tremendous wear life. Tamper-proof Reset.
Modern design—streamlined appearance—you can see the quality.
Used by the thousands in Auto and Aircraft Factories, Metal Working, Die Casting, Plastic Molding and Stamping Plants.
See a Silver King and compare. Order sample on approval today.

Send for Catalog
describing
Stroke and Revolution Counters
Coil Winding Counters
Electric Counters
Electric Batch Counters
Actuating Switches

Production Instrument Company
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

BREVITY—Identify by IEN - 7258 if you write the maker

SWING INTO HIGH PRODUCTION
WITH AGF RECIPROCATING FURNACES



The AGF Model 191-F Reciprocating Furnace is a full muffle continuous production unit. It has no gears, chains or other troublesome working parts to be affected by the interior heat. The muffle swings from the super-structure and a mechanical movement at the end of each stroke advances the work—automatically.

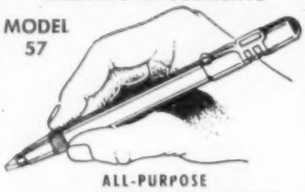
Write for Bulletins 815 and 815B

AMERICAN GAS FURNACE CO.
974 LAFAYETTE STREET, ELIZABETH 4, N. J.

BREVITY—Identify by IEN - 7259 if you write the maker

You Can't Beat
FORCE
DRI-FLO
WRITING IMPLEMENTS

MODEL 57



40 A
SQUARE
ROUND
CHISEL

ALL-PURPOSE
STENCIL AND MARKER BRUSHES
Fountain-type construction for trouble-free operation. Available with round, square, chisel or cube nibs. Instant dry or opaque models.

Send for Catalog D

THREE QUARTERS OF A CENTURY'S SERVICE

WM. A. FORCE
& COMPANY, INCORPORATED
64 WHITE STREET, NEW YORK 13, N. Y.

NEW LITERATURE—Continued

"Note the special 'O' numbers"

HANDLING . . Knock-down material-handling box; basic unit construction, typical assemblies, uses. "Hazen Box," 6 pages. Jervis B. Webb Co., 8933 Alpine Ave., Detroit 4, Mich. **IEN-0834**

HANDLING . . Picture review on "Trambeam" conveyors, electric hoists, cranes, Trackmobile. "Quick Facts on Handling," 16 pages. Whiting Corp., 15629 S. Lathrop Ave., Harvey, Ill. **IEN-0835**

HEAT EXCHANGING . . Illustrated types of heat-transfer surfaces, uses in elements and complete assemblies. Bulletin ID-151, 4 pages. Modine Mfg. Co., 1724 Racine St., Racine, Wis. **IEN-0836**

HEAT TREATING . . Atmosphere furnaces for hardening and annealing; condensed data, generators. Bulletin SC-151, 4 pages. Surface Combustion Corp., 2372-77 Dorr, Toledo 1, Ohio **IEN-0837**

HEATING . . Superheated hot water heating method for process equipment; review. Folder, "Supertherm," 4 pages. J. O. Ross Engineering Corp., 444 Madison, Rm. 1802, New York 17, N. Y. **IEN-0838**

HOSE FITTINGS . . "Punch-Lok" hose clamps, tools and fittings; sizes, instructions, suggested uses. Catalog 500, 12 pages. Punch-Lok Co., 319-23 N. Justine St., Chicago 7, Ill. **IEN-0839**

INSULATING . . Low-temperature materials; data on Temlok, Fiberglas, corkboard; design suggestions. "Equipment Insulations," 24 pages. Armstrong Cork Co., 1012 State, Lancaster, Pa. **IEN-0840**

INSULATING . . Tube-supported refractory enclosures for steam boilers; drawings, assembly steps. "Tube-Supported . ." 12 pages. Bigelow-Liptak Corp., 2840-44 W. Grand, Detroit 2, Mich. **IEN-0841**

INSULATING . . Electrical materials; data on varnished sheet and tube, plastic, varnishes, Catalog, 54 pages. Irvington Varnish & Insulator Co., 4-8 Argyle Ter., Irvington 11, N. J. **IEN-0842**

INSULATING . . High-temperature block material for pipes, furnaces; properties, recommendations. "Superex," 4 pages. Johns-Manville Sales, 22 E. 40th, Rm. 1201, New York 16, N. Y. **IEN-0843**

INSULATING . . "Scotch" adhesive plastic tapes; types and uses in electronic parts. "Tapes for Television," 8 pages. Minnesota Mining & Mfg. Co., 902 Fauquier, St. Paul 6, Minn. **IEN-0844**

ISOLATING . . "All-Metl Barrymount" vibration-isolating mountings; data on models for 2 to 80 pounds. Catalog 509, 4 pages. Barry Corp., 700-P Pleasant St., Watertown 72, Mass. **IEN-0845**

LATHES . . "Tray-Top Cintilathes" in engine, toolroom and gap-bed designs; specifications, 10 to 18 in. Catalog T-101, 28 pages. Cincinnati Lathe & Tool, 3205-9 Disney, Cincinnati 9, Ohio **IEN-0846**

LATHE TOOLS . . Cutting-tool holders in a range of designs; sizes, list prices, tool bits and blades. "Tool Holders," 8 pages. Ready Tool Co., 552-56 Iranistan Ave., Bridgeport 5, Conn. **IEN-0847**

LENSES . . Also prisms, reflectors; descriptions and sizes. "Optical Parts Catalog L-117," letterhead request, 16 pages. Bausch & Lomb Optical Co., 613 St. Paul St., Rochester 2, N. Y. **IEN-0848**

LIGHTING . . Slimline fluorescent lamps; illustrated construction features, notes on manufacture. Bulletin 1-B-192, 12 pages. General Electric Co., 1 Nela Park, Cleveland 12, Ohio **IEN-0849**

LIGHTING . . "Convaire" fluorescent fixture for industrial use; models, list prices, mounting, lighting data. Catalog IC-31-34, 4 pages. Miller Co., 202 Center St., Meriden, Conn. **IEN-0850**

LIGHTING . . "Industri-Line" Slimline fluorescent fixtures; models, mounting, illumination data. Bulletin 88, 16 pages. Wheeler Reflector Co., 273-77 Congress St., Boston 10, Mass. **IEN-0851**

MANAGEMENT . . Revised American Standards; condensed data on 1,180 specifications. Price List, 26 pages. American Standards Association, 70 E. 45th St., Rm. 2845, New York 17, N. Y. **IEN-0852**

MANAGEMENT . . Directory of 150 motion pictures and slide films on production and management. "Film Guide 15," list $1.50. Film Research Assoc., 155 W. 52nd, New York 19, N. Y. **IEN-0853**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7260 if you write the maker

A Paid News Advertisement by Kollmann Mfg. Co.

CLEANS DRAIN AND SUPPLY LINES

. . . Advanced design machine features instant-acting clutch and sectional cables for fast, SAFE operation by one man. Cuts maintenance costs and "down" time.

This fully portable, electric power machine is ideal for clearing obstructions from underground or overhead drains and supply lines. Adaptable to 4 cable sizes and to all pipe sizes from 1¼" to 12". Handles up to 200' of cable at 700 R.P.M. **under instant control.**

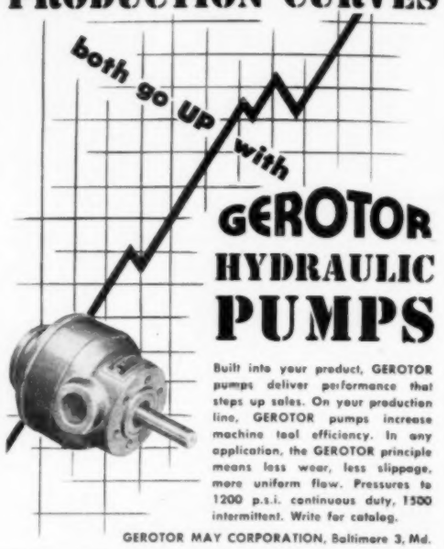
Convenient 15' sections of tempered steel cable, couple and lock instantly and are enclosed by guide hose. There is no unwieldy cable length to damage operating area or injure operator.

Patented instant-acting clutch provides finger tip control for starting, stopping and reversing. Cutters and cables clear any combinations of traps, ells and bends in sewer or industrial drains, conductor lines, concealed or exposed downspouts and supply lines. Easily carried and operated by one man, machine can be passed through an opening 14 by 22 inches and needs only 3 sq. ft. of floor space. Quickly pays for itself through reduced maintenance costs and less out-of-service time. For full details and name of nearest distributor, write Kollmann Manufacturing Company, 4850 Peach St., Erie, Pa., or use the enclosed Reader Service Form.

KOLLMAN MANUFACTURING CO.
4850 Peach Street, Erie, Pa.

BREVITY—Identify by IEN - 7261 if you write the maker

SALES CURVES . . .
PRODUCTION CURVES



GEROTOR
HYDRAULIC
PUMPS

Built into your product, GEROTOR pumps deliver performance that steps up sales. On your production line, GEROTOR pumps increase machine tool efficiency. In any application, the GEROTOR principle means less wear, less slippage, more uniform flow. Pressures to 1200 p.s.i. continuous duty, 1500 intermittent. Write for catalog.

GEROTOR MAY CORPORATION, Baltimore 3, Md.

BREVITY—Identify by IEN - 7262 if you write the maker

from Attic fans
timing devices for every purpose
to X-ray machines

MARK-TIME does the job

first where quality counts

In every industrial and appliance field Mark-Time timing devices are known for rugged, dependable operation with no sacrifice of accuracy.

Mark-Time timing devices are designed, engineered, and manufactured by a skilled team of engineers and craftsmen. They include spring operated bell timers, time switches, and combinations of both, designed to meet all specifications and requirements where audible bell signal or electrical circuit breaking is required at the end of a time cycle.

Let Mark-Time solve your timing problem!

M. H. RHODES, INC.
HARTFORD, CONNECTICUT

In Canada send inquiries to: Ontario Hughes Owens Co. Ottawa, Ontario

BREVITY—Identify by IEN - 7263 if you write the maker

Tops in motor ruggedness!
CROCKER-WHEELER form BA
MOTOR
Squirrel-edge Protected-type

■ Put it on a machine tool, stoker, pump, compressor, or any other drive calling for a protected type motor. Mount it any way you like—NEMA D flange mounting, horizontal or vertical . . . NEMA C face mounting . . . drip-proof or splash-proof enclosures. Also equipped with the C-W brake where you want quick stops. An all-round tough motor, in NEMA frames 203 to 505, and ratings beyond.

CW-35 *Write for the BA Bulletin.*

ELLIOTT COMPANY
General Offices & Main Plant Jeannette, Pa.

CROCKER-WHEELER DIVISION . . . AMPERE, N. J.
Branch Offices and Representatives in Principal Cities
Elliott Approved Service Shops Cover the Country

BREVITY—Identify by IEN - 7264 if you write the maker

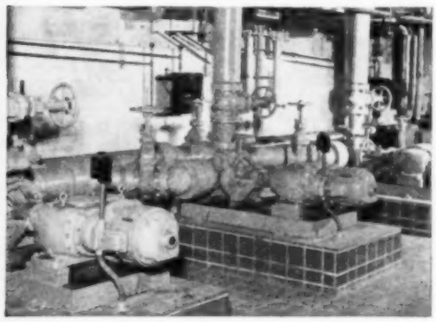
BEFORE YOU BUY—
consider
the new B&S
duplex REWINDER

OUTSTANDING FEATURES:
- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
- Air-Operated Slitters for strips as narrow as ½ inch
- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical

For further details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

BAGLEY & SEWALL
WATERTOWN—NEW YORK
designers and builders of
QUALITY MACHINERY SINCE 1853
500 FIFTH AVE., NEW YORK 18, N. Y.

BREVITY—Identify by IEN - 7265 if you write the maker



for production that needs more horsepower— MOTORS and CONTROLS via Graybar

It's sound practice to specify General Electric motors—sound practice, too, to make sure you get the *right* G-E motor . . . via Graybar.

Service under all conditions proves the rugged reliability of the entire G-E Tri-Clad line—motors that are built to take physical abuse . . . built to deliver smooth, steady power.

ADVICE ON MOTOR SELECTION

Let your local Graybar Representative be your motor advisor. He can help you match up motors with machine-drive requirements . . . help you analyze service conditions requiring special types such as totally-enclosed motors, variable speed motors, gear motors, reversible motors.

G-E motor controls are also distributed by Graybar. Here again, you'll find your Representative well-qualified to recommend the type best-suited to the operating procedures in your plant.

He can also provide details on the G-E Motor Exchange Plan. Covering popular fractional and integral ratings, this plan makes emergency replacement of inoperable motors a simple over-the-counter transaction.

SPECIALIZED TECHNICAL HELP

On out-of-the-ordinary installations or where you or your electrical contractor desire specialized technical information, you can obtain the additional assistance of an experienced Graybar Power Apparatus Specialist. Call on him, too, for help in choosing transformers, switchgear, circuit breakers, capacitors, and other items for inter-plant distribution.

EXTRA GRAYBAR SERVICE ON ANYTHING ELECTRICAL

Before you buy your next motor—or for that matter, anything electrical—discover for yourself the many helpful services that stand behind the Graybar tag—services that even today can help you buy with greater speed and efficiency the materials and supplies required for wiring, communication, ventilation or lighting.

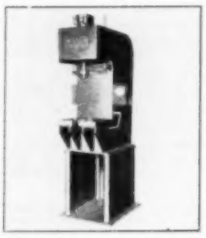
Graybar Electric Company, Inc. Executive offices: Graybar Building, New York 17, N. Y. 178-127

Avoid electrical delays — plan ahead . . . via GraybaR . . . IN OVER 100 PRINCIPAL CITIES

BREVITY—Identify by IEN - 7267 if you write the maker

PRESS . . Self contained hydraulic to bend, form, press fit, rivet

Source: HANNIFIN CORP.
1108 S. Kilbourn Ave., Chicago 24, Ill.



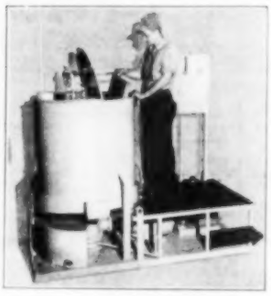
Two new sizes rating 5 and 8 ton have been added to the company's line of self-contained hydraulic presses. Each is in two ram-speed ranges for which two sizes of motor-driven pump have been developed. Adjustments are provided to shorten the stroke at the upper end so the ram can be limited in its retracting movement to just clear given work. Pressure capacity can be adjusted between 10 and 100 per cent of maximum. Control centers at a hand lever. Dual levers, electric push-buttons, bench or floor mounting can be specified.

Model Number		F-50A	F-51	F-80	F-81
Capacity, Tons		5	5	8	8
Stroke, Inches, Max.		10	10	10	10
Gap, inches		16	16	16	16
Throat, Inches		7½	7½	7½	7½
Ram Speed, ipm.	down	120	192	73	116
1,200 rpm. motor	up	240	390	151	242
Pump Volume, gpm.		5	8	5	8
Motor Horsepower		2	3	2	3
Oil Reservoir, Gallons		11	11	11	11
Cylinder Bore, Inches		3½	3½	4½	4½

BREVITY—Identify by IEN - 7268 if you write the maker

CLEANING . . Washing machine cleans and oils dust collector panels

Source: PAXTON-MITCHELL CO.
2701 Martha St., Dept. 81-B, Omaha 5, Nebr.



Safe-N-Ezy is a new motor-driven steam-heated washing machine and associated control equipment to take dust-clogged collector panels in its circular housing. The panels locate symmetrically on edge around the center so they will be essentially in balance as they are spun by the motor drive. Hot water is directed through them from an inlet in the center and dirty water is drained out to the sewer while they are in motion. Next they are subjected to a spray of cleaning solution, which is pumped from a tank in the assembly and returned to the tank. This is followed by rinsing with hot water and draining. Then the panels are spun dry and are sprayed with oil for return to service.

Various inserts for the bottom of the main housing provide setup to position 2 to 8 panels at a time. The machine will handle four 19½ by 19½ by 2⅛ in. panels. The motor is available for operation on 110-volt or 220/440-volt ac. Overall dimensions are about 7 by 4½ by 6 feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 7269 if you write the maker

FLEXCO® BELT FASTENERS and RIP PLATES

FOR HEAVY CONVEYOR AND ELEVATOR BELTS OF ANY WIDTH

Compression Grip distributes strain over whole plate area

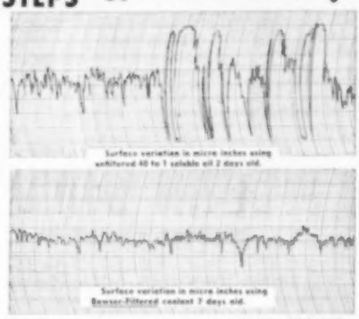
- ★ FLEXCO Fasteners make tight butt joints of great strength and durability.
- ★ Trough naturally, operate smoothly through take-up pulleys.
- ★ Distribute strain uniformly.
- ★ Made of Steel, "Monel," "Everdur." Also "Promal" top plates.
- ★ FLEXCO Rip Plates are for bridging soft spots and FLEXCO Fasteners for patching or joining clean straight rips.

Order From Your Supply House. Ask for Bulletin F-100

FLEXIBLE STEEL LACING CO.
4610 Lexington St., Chicago 44, Ill.

BREVITY—Identify by IEN - 7270 if you write the maker

HOW FILTERED COOLANT STEPS UP PRODUCTION!



These surface variations are from work FINISH GROUND to .0001 tolerance, to be lapped later to 1/200,000.

Rejections averaged 25% with unfiltered coolant—were reduced to less than ½% when Bowser-filtered.

Our nearest sales engineer will welcome an opportunity to discuss your coolant filtration problems. May we have him call?

BOWSER, INC., 1338 Creighton Ave., Fort Wayne 2, Ind.

BOWSER — LIQUID CONTROL SPECIALISTS SINCE 1885

BREVITY—Identify by IEN - 7271 if you write the maker

We'll hitch our braggin' to these STARS

If you want tools that can make—and live up to—big claims for superiority . . . you'll find them in this all-star Millers Falls lineup. Each is outstanding in its field—each is a ticket to better work—greater speed—lower costs. They're making production history in thousands of plants. Let us send you full details or arrange a demonstration.

MILLERS FALLS COMPANY
DEPT. P
GREENFIELD, MASS.

MILLERS FALLS TOOLS SINCE 1868
The Mark of Superiority

BREVITY—Identify by IEN - 7272 if you write the maker

ARO DOES IT AGAIN! with AIRCRAFT DRILLS

6 models 500 to 17,000 R.P.M.

ANOTHER ARO FIRST!

1. **NEW SAFETY-LOCK TRIGGER** prevents tool starting up during drill bit changing.
2. **COMPLETE INTERCHANGEABILITY** of all parts . . . easy conversion from one model to another.
3. **SLO-SPEED, HI-TORQUE MODELS** for drilling high-tensile-strength modern metal alloys, armor plate, stainless steel. Also 3 Hi-Speed models.

EXCLUSIVE Safety-Lock Trigger!

Write for catalog.
The Aro Equipment Corporation, Bryan, Ohio
Aro Equipment of Canada Ltd., Toronto

ARO AIR TOOLS Also . . .
LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

BREVITY—Identify by IEN - 7273 if you write the maker

SAVE FINISHING TIME

LAPPING STICKS AND WHEELS

HAND FINISHING STONES

ON MOLDS AND DIES

Specify

ELGIN DYMO

DIAMOND COMPOUND

. . . repeat results certain with Elgin graded diamond!

AND FINISHING ACCESSORIES

. . . available from stock!

WRITE FOR FREE DEMONSTRATION!

FELT BOBS AND WHEELS

BRISTLE BRUSHES

INDUSTRIAL PRODUCTS DIVISION

ELGIN NATIONAL WATCH COMPANY

Elgin, Illinois

BREVITY—Identify by IEN - 7274 if you write the maker

FOR UNUSUAL SPRAYING APPLICATIONS

No matter how unusual your spraying job, Delavan's complete engineering and laboratory service can save you money—by helping you choose the right nozzle for your application.

WRITE NOW FOR

Catalog No. 30

DELAVAN MANUFACTURING CO.

3009 SIXTH AVENUE

DES MOINES 13, IOWA

BREVITY—Identify by IEN - 7275 if you write the maker

. . . with built-in blower

R-C-S SUPER SAW

AIR COOLED

A Journeyman's Tool, built to stand up under constant, on-the-job Contractor or industrial use . . .

Cutting opening in oak flooring in less than 3 minutes—no starting hole needed!

● NO STARTING HOLE NEEDED . . . Simply place guide next to material and "rock" tool into an upright position.

● CUTS RIGHT THRU IMBEDDED NAILS . . . wood, plaster, iron pipe, sheet metal, "Transite" and most other materials—even in cramped quarters.

● FITS HEAVY DUTY ¼" or ⅜" DRILL . . . as easy as changing bits! Overall length only 10¾"; weight only 3 lbs. 6 ozs.

● BUILT FOR CONSTANT DUTY OPERATION . . Built-in blower keeps Super-Saw cool even when used continuously and blows sawdust away from cutting line. Replaceable "Oilite", phosphor bronze and high speed ball bearings throughout. Write for Bulletin H7.

Listed on Federal Supply Schedules. Class 40 Material.

R-C-S TOOL SALES CORPORATION

JOLIET, ILLINOIS, U. S. A.

NEW LITERATURE—Continued

"Designations given to help you check"

MARKING . . Machine to print or code packaged products; features, examples of work handled. "Markocoder," 6 pages. Adolph Gottscho Inc., 6D Terminal Road, Hillside 5, N. J. IEN-0854

METAL POWDERS . . Also paint pigments, metal abrasive grit; products and facilities for defense work. Booklet, 16 pages. Metals Disintegrating Co., 1188-92 Arthur Blvd., Elizabeth B, N. J. IEN-0855

METAL TREATING . . "Alodine" process to form amorphous phosphate coating on aluminum; description. Bulletin 586-B 4 pages. American Chemical Paint, Box 301-A, Ambler, Pa. IEN-0856

MONORAIL . . Automatic dispatch assemblies of monorail equipment; layout diagrams, component details. Bulletin AD-1, 12 pages. American Monorail Co., 13111 Athens, Cleveland 7, Ohio IEN-0857

MOTOR CONTROL . . Starting switches, relays; ratings, sizes, list prices. "Handy Catalog," letterhead request, 92 pages. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wis. IEN-0858

MOTORS . . With integral brakes, ac. and dc., ½ to 100 hp.; construction, models. Bulletin B-501-A, 8 pages. Star-Kimble Electric Co., 202 Bloomfield Ave., Bloomfield, N. J. IEN-0859

NAMEPLATES . . Made of stainless steel, also dials, wiring diagrams, signs; properties, examples. Folder, "Ateenate," 4 pages. Ateenate Inc., 109-13 Sagamore St., North Quincy 71, Mass. IEN-0860

OIL CONDITIONING . . Example of use for company's Purifier unit in conditioning quenching oil. "Mass Marquenching," 4 pages. Honan-Crane Corp., 510 Indianapolis Ave., Lebanon, Ind. IEN-0861

PACKAGING . . Machines to fill and close containers, form capsules; data summaries on a line. Folder AC-13, 16 pages. Arthur Colton Co., 3422 E. Lafayette Ave., Detroit 7, Mich. IEN-0862

PACKAGING . . "No-Ox-Id" corrosion-resistant materials for metal parts; properties, methods. Bulletin 3025, 18 pages. Dearborn Chemical Co., 51 Merchandise Mart Pl., Chicago 54, Ill. IEN-0863

PACKAGING . . "Morpac" machine to wrap paper sheets, booklets, books; adjustment range, specifications. Bulletin, "Series E," 4 pages. Lynch Corp., 3622 Summit St., Toledo 1, Ohio IEN-0864

PACKAGING . . Polyethylene plastic film for product packaging; properties, forms, examples of use. Booklet, "VisQueen," 12 pages. Visking Corp., P. O. Box 1410-A, Terre Haute, Ind. IEN-0865

PAINTING . . Heat-resisting aluminum paint; details on 1,000-deg. interior and 550-deg. exterior types. "Paint It Right," 4 pages. Skybryte Co., 3123 Perkins Ave., Cleveland 14, Ohio IEN-0866

PIPE . . Fabricated assemblies of pipe, valves and fittings; illustrated examples, notes on facilities. Bulletin 1700, 24 pages. Dravo Corp., Liberty & Fifth Aves., Pittsburgh 22, Pa. IEN-0867

PIPE FITTINGS . . Welding necks, nozzles, flanges, for pressure vessels; sizes, ratings, design data. Catalog 501, 116 pages. Taylor Forge & Pipe Works, Box 485-A, Chicago 90, Ill. IEN-0868

PIPE FITTINGS . . "Zephyrweld" stainless-steel weld fittings of light-gage pipe to 24 in., size tables. Catalog 1051, 16 pages. Tri-Clover Machine Co., 2807-11 60th St., Kenosha, Wis. IEN-0869

PLASTIC FABRICATING . . Machines to make hollow cylinders from sheet plastic; illustrated steps, models. Bulletin 5103, 6 pages. Taber Instrument Corp., 107 Goundry, N. Tonawanda, N. Y. IEN-0870

PLASTICS . . Ethoxyline hardenable resins; properties, use for potting electrical products. "Araldite Casting Resin B," 12 pages. Ciba Co., 627 Greenwich St., 1st Flr., New York 14, N. Y. IEN-0871

PLASTICS . . Nylon and Teflon in rod, strip, tube forms; grades, properties, standard sizes. Folder, "Polypenco Nylon," 4 pages. Polymer Corp., 405 Walnut St., Reading, Pa. IEN-0872

PLASTICS . . List of company's laminated plastic tube and rod corresponding to Government specifications. "Specifications Chart," 4 pages. Synthane Corp., 50 S. River Road, Oaks, Pa. IEN-0873

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7276 if you write the maker

WHAT'S IN THIS PIPE?

YOU KNOW WHAT'S IN THIS ONE

CITY GAS

YOU CAN TELL AT A GLANCE WITH

QUIK-LABEL PIPE MARKERS

Identify every pipe in your plant quickly and inexpensively with Brady Pipe Markers. They give you a uniform system of identification based on ASA Standard A13. Anyone can apply and everyone can identify the pipe contents and direction of flow. Cut maintenance time. Make your plant a safer place to work. Over 235 different markers in stock. Specials made to order.

QUIK-LABELS come on handy dispenser cards. They are printed in large black letters on approved ASA background colors. Applied in a jiffy—they stick without moistening. Use indoors or outdoors. Cost only a few cents per marker.

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DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

MANUFACTURERS OF SELF-STICKING PRODUCTS

WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTER "SCOTCH" TAPE · MASKS & STENCILS

W. H. BRADY COMPANY

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2 free books

with the complete money-saving story on Wolmanized Lumber

How to avoid costly damage caused by rot and termites

Use Wolmanized* pressure-treated Lumber wherever timbers are exposed to conditions causing decay or termites. Preservatives that kill rot and termites are driven deeply into Wolmanized Lumber under high pressure (150 p.s.i.). This lasting protection—at low cost—helps Wolmanized Lumber last 3 to 5 times as long as untreated lumber!

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American Lumber & Treating Co.
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Tells facts about millions of feet of Wolmanized Lumber in service in industries for years.

Tells how Wolmanized Lumber is treated and where it can save you money.

Wolmanized PRESSURE TREATED Lumber

Stops Rot and Termites

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Well Stacked!

Prefabricated pallet racks by Equipment Mfg. Inc. permit stacking to conserve floor space without tying up low level material. They are engineered for strength, safety and flexibility. There's a type to suit your particular needs.

Write for our catalog. It illustrates all types.

EQUIPMENT MFG. INC.

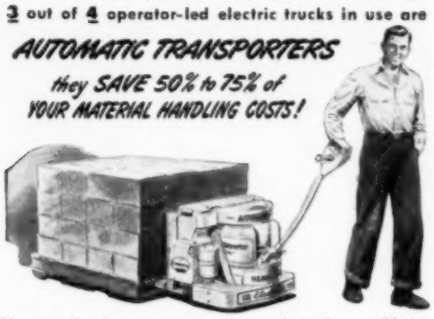
21564 HOOVER, DETROIT 5, MICH.

BREVITY—Identify by IEN - 7280 if you write the maker

3 out of 4 operator-led electric trucks in use are

AUTOMATIC TRANSPORTERS

they SAVE 50% to 75% of YOUR MATERIAL HANDLING COSTS!



If you employ 3 or more men who manually lift or move material, new "101" Transporters will cut your material handling costs 50% to 75% . . . help you *speed* production . . . ship *more* goods faster.

Moves tons of your product at the touch of a button . . . raise load to moving height in seconds . . . works all day for as little as pennies.

New "Armoreel" Powerhead defies destruction of all operating parts, yet they are instantly accessible for servicing.

So compact it turns within its own shadow. "101" Transporters are far more maneuverable . . . operate easily in narrow aisles.

New motor is same size but 20% more efficient . . . designed specially for heavy duty industrial service . . . has ample overload capacity.

Precision manufacture guarantees durability. The thousands of Transporters subjected to the toughest service since 1942 prove they stand up.

WRITE FOR MONEY-SAVING FACTS... FREE BOOKLET

AUTOMATIC TRANSPORTATION CO.
DIV. OF THE YALE & TOWNE MFG. CO.
109 W. 87th Street, Dept. K-1
Chicago 20, Ill.

"101" Transporter
A PRODUCT OF AUTOMATIC

BREVITY—Identify by IEN - 7281 if you write the maker

CURE for 1,000 Headaches

SEAMLESS

F.O.S. Industrial Tape

The original pressure-sensitive tape made in hundreds of widths, weights, constructions for a host of time-saving applications.

BUNDLING

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● Take a quick glance at the operations in which pressure-sensitive tape techniques are saving time and money. Seamless F. O. S. Tape is strong, tenacious, easy to apply, yet easy to remove. Special construction to resist staining, high temperature, moisture, corrosion and other severe conditions. Write for prices, free samples, authoritative advice and suggestions.

Do you have a defense contract requiring tape to meet government specifications? We can help you. Wire details collect for 24-hour reply.

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PACKAGING • BACKING • HINGING
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INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U. S. A.

BREVITY—Identify by IEN - 7282 if you write the maker

New Model 50 ELECTRICAL TROUBLE SHOOTER

● Measures A.C. and D.C. Voltages, A.C. and D.C. Current, Resistances, etc.

● Will measure the current consumption *while the appliance under test is in operation.* The appliance or utility may be plugged directly into the front panel receptacle. A special pair of insulated clip-end leads is included for motors, etc.

● Incorporates a sensitive direct-reading resistance range which will accurately measure all resistances commonly used in electrical appliances, motors, etc. This range will enable continuity checks and tests for shorts and opens.

● Will test thermostats, lamps, tubes, fluorescents, all fuses, condensers, field coils, fans, heaters, washers, soldering irons, melting pots, air-conditioners, ballasts, lighting systems, electric ovens, solenoids, circuit breakers, also all motors — single phase, multi-phase, universal, squirrel cage, induction, in fact every type of motor from fractional H.P. to 2 H.P.

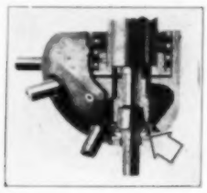
Handsome round cornered molded bakelite case 3½" x 5⅞" x 2⅛". Complete with all test leads and instructions. **$13.90**

SUPERIOR ELECTRONIC CO., INC.
Dept. E 227 Fulton St., New York 7, N. Y.

BREVITY—Identify by IEN - 7283 if you write the maker

DRILLING . . Six spindle turret mounts ¼ to ½-in. Jacobs chucks

Source: HOWE & FANT INC.
529-33 Flaxhill Road, South Norwalk, Conn.



New design of the spindle bearings for the company's Lign-O-Matic turret head, previously described IEN-5842-48, insures exact alignment for each spindle as it comes into driving position and is engaged by the drilling-machine spindle drive.

The head can be indexed without stopping the drive at a speed which compares favorably with the operation of changing tools in a single spindle. Sequence operations also can be set up to include drilling, reaming, counterboring, also threading when the drilling machine in which the head is mounted is equipped with a reversing drive. The housing measures 5¾ in. in diameter, 4½ in. in height and weighs 7 lb. without the chucks.

BREVITY—Identify by IEN - 7284 if you write the maker

CORROSION PROOFING . . Oil additive for steel in storage and transit

Source: ALOX CORP.
3950 Buffalo Ave., Niagara Falls, N. Y.

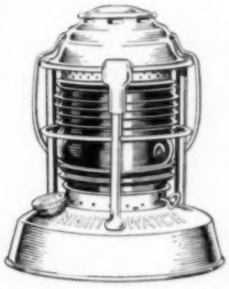
Excludes moisture salt water corrosive gases

Type L-1673 is a new oil-soluble rust inhibitor for addition to oil. It is added after melting it at 120 deg. F. and mixing it with hot oil at 225 deg. F. to assure complete removal of water. The material itself is a combination of lead and sodium soaps. The oil mixture is spread over the surfaces to be protected. It can be removed by application of carbon tetrachloride and certain oils.

BREVITY—Identify by IEN - 7285 if you write the maker

SIGNALING . . Kerosene lantern projects red pencil beam warning light

Source: R. E. DIETZ CO.
223-27 Wilkinson St., Syracuse 4, N. Y.



Night Watch trade names new kerosene safety lantern in which a ruby-glass fresnel globe is mounted inside a protecting steel frame consisting of three uprights and two rings. A steel cover hinges on one of the uprights for access to the interior. It clamps to the other two. A carrying bail is secured to the cover. The base provides storage for 16 ounces of kerosene for 100 hrs. of operation. Dimensions are 6¾ by 8 inches.

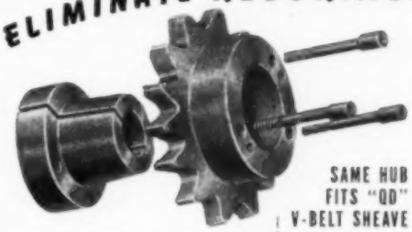
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 7286 if you write the maker

FORT WORTH QD Roller Chain SPROCKETS WITH TAPERED SPLIT HUB

PATENT APPLIED FOR

ELIMINATE REBORING!



SAME HUB FITS "QD" V-BELT SHEAVE

Speed changes are simplified and "spare" sprockets can be carried more easily.

If your favorite distributor doesn't stock this new item, tell him about it. He'll reward you with better service.

"OFF THE SHELF" SERVICE AVAILABLE FROM INDUSTRIAL DISTRIBUTORS

Reboring of stock bore sprockets to fit various shafts is eliminated due to the various bores available in the QD hub. Installation and removal from the shaft is made easy by the tapered fit of the hub and sprocket. Hub assembly grips the shaft equivalent to a "press fit."

Catalog explaining additional advantages and construction details will be furnished on request.

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL AND MACHINERY CO.
3600 McCART, DEPT. 27, FORT WORTH, TEXAS

BREVITY—Identify by IEN - 7287 if you write the maker

EX-CELL-O BUSHINGS

On the Job!

Shown above is a jig illustrating the use of Ex-Cell-O Drill Jig Bushings. Note the various types—headless press fit, head type press fit, and slip renewable bushings—three of the many types carried in stock and described and pictured in Ex-Cell-O's bushing catalog—yours for the asking—Bulletin 35371.

XLO

31-20

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

BREVITY—Identify by IEN - 7288 if you write the maker

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

Complete information on improved centrifugal Spray Dryer, illustrated with photographs and engineering design drawings.

THE DRYING AND CONCENTRATING COMPANY DRYER

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

***CONCENTRATOR AVAILABLE SEPARATELY**

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

363

DRYING and CONCENTRATING CO.
333 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

BREVITY—Identify by IEN - 7289 if you write the maker

Pheoll BRASS WASHERS

● TAKE SCREW AND BOLT THRUST
● PREVENT TWISTING AND TURNING OF JOINED PARTS
● ELIMINATE POSSIBLE REAMING ACTION OF SCREW AND BOLT HEAD
● MAY BE USED AS SPACERS AND DOLLARS

STANDARDIZE ON THESE OTHER PHEOLL PRODUCTS
Knurled Nuts
Cap Screws
Wing Nuts
Machine Screws
Square Head Set Screws
Sems
Tapping Screws
Phillips Recessed Head Screws

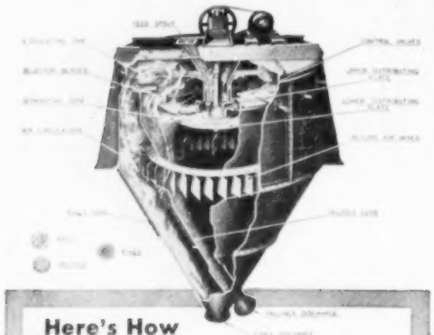
Ample bearing surface of Pheoll Brass Washers offer added holding power when used with machine screws, wood screws, cap screws, and bolts. Brass washers are stocked in two standard sizes: the Large Pattern and the Small Pattern which fit screw sizes from No. 0 to No. 24 and bolt sizes from ¼ to 1½". Large Pattern brass washers have large outside diameters and extra thickness. Small Pattern washers have smaller o.d. and are proportionately less in thickness.

● All brass washers are made to accurate gage, with holes centered and dimensions held to close tolerances. Washers are blanked from special brass stock, and are flat and free from burrs. They are economical to use and offer many advantages over ordinary steel washers. Check now with Pheoll to learn of these advantages.

NOTE: Brass Washer Sems are available if desired. Special brass, copper and plated washers to order.

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • BOLTS • NUTS
Industrial Fasteners and Holding Devices

BREVITY—Identify by IEN - 7290 if you write the maker



Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

Sturtevant Air Separators effect production savings by increasing output by 25 to 300% . . . reducing power consumption by as much as 50%.

They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer . . . eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
113 Clayton Street, Boston 22, Mass.

BREVITY—Identify by IEN - 7291 if you write the maker

VULCAN
ELECTRIC HEATING UNITS
CARTRIDGE

Low cost and efficient concentrated electric heat for small areas. Standard sizes have brass sheath suitable for temperatures up to 750° F. Other sheaths for higher temperatures.
40 to 320° watts. ⅛" to 1 19/64" diameter.
1⅛" to 25" long. Insulated lead wires.
115 v. or 230 v.
Smaller or larger diameter units, with various terminals to fit your needs, made on order.

VULCAN ELECTRIC COMPANY
DANVERS 5, MASS.
Maker of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Branding Irons and Electric Heating Units.

BREVITY—Identify by IEN - 7292 if you write the maker

PROTECT
your expensive dies and machine parts
USE
ACME
RED OR BLUE LABEL
PRECISION
DOWEL PINS

Acme Dowel Pins break before bending or mushrooming—thus saving expensive equipment from ruin through misalignment. Order standard sizes from stock. Attractive prices on special sizes and large quantities.

WRITE FOR DESCRIPTIVE CIRCULAR

Acme Industrial Company
Makers of Standardized Jig & Fixture Bushings
215 N. Laflin Street • Chicago 7, Illinois
THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

NEW LITERATURE—Continued

"Condensed reviews of current catalogs"

PRESS TOOLS . . Universal dies for short-run stampings; components, assemblies, uses. "Williams System," 44 pages. Connecticut Tool & Eng. Co., 542-46 Iranistan Ave., Bridgeport 5, Conn. **IEN-0874**

PRESSES . . "Fastraverse" hydraulic presses for metal-working operations; illustrated review, specials. Bulletin 5005, 12 pages. Hydraulic Press Mfg. Co., 301 Lincoln Ave., Mt. Gilead, Ohio **IEN-0875**

PRESSES . . "Utility No. 2" hand-operated 50-ton press; specifications, uses. Bulletin TE4-101, 4 pages. Producto Machine Co., 988-92 Housatonic Ave., Bridgeport 1, Conn. **IEN-0876**

PRESSES . . Picture book of production steps in making hydraulic presses, valves, other equipment. "Since 1803," 32 pages. R. D. Wood Co., 51 Public Ledger Bldg., Philadelphia 5, Pa. **IEN-0877**

PRINTING . . Photocopy camera for record copying to 14 by 17 in.; description, reduction chart, uses. "Dexigraph," 8 pages. Remington Rand, 315 Fourth Ave., Rm. 1618, New York 10, N. Y. **IEN-0878**

PROCESSING . . Rubber and plastic-working mills, washers, crackers; illustrated review on company's line. "Mills," 8 pages. Erie Engine & Mfg. Co., Adams & E. 12th St., Erie, Pa. **IEN-0879**

PROCESSING . . Calender machines for rubber and plastics; illustrated examples of some 30 units. Bulletin 174, 32 pages. Farrel-Birmingham Co., 146-50 Maple St., Ansonia Conn. **IEN-0880**

PROCESSING . . Evaporators, filters, sugar mills, flakers; illustrated examples, facilities. Bulletin 510, 8 pages. Goslin-Birmingham Mfg. Co., 3705 Tenth Ave. N., Birmingham 1, Ala. **IEN-0881**

PROCESSING . . Heat exchangers, liquid heaters, dry mixers, process kettles, mixers; data summaries. Condensed Catalog, 4 pages. Patterson-Kelley Co., 80 Warren St., East Stroudsburg, Pa. **IEN-0882**

PROCESSING . . Acetylene-generating and compressing plants, 240 to 3,000 cfh.; data table. Folder CP, 6 pages. Sight Feed Generator Co., 50 Industrial St., West Alexandria, Ohio **IEN-0883**

PROTECTING . . Plastic-coated cotton work gloves; review of features, illustrated models, colors. Folder P-1, 4 pages. American Rubberizing Co., 615-19 11th Ave., Minneapolis 4, Minn. **IEN-0884**

PROTECTING . . Uniforms for commercial and for industrial use; color pictures, sizes, for men and women. "Blue Book," 52 pages. Angelica Uniform Co., 1417-21 Olive St., St. Louis 3, Mo. **IEN-0885**

PROTECTING . . Woman's protective hat for safety and style; description on two models. Folder, "Ray-Ve Hat," 4 pages. Boyer-Campbell Co., 6538-42 St. Antoine St., Detroit 2, Mich. **IEN-0886**

PROTECTING . . Work clothing of Dynel and Vinyon N synthetic fabrics; properties, sizes, test data. 1951 Catalog, 42 pages. Chem-Wear Inc., 740 Broadway, 7th Floor, New York 3, N. Y. **IEN-0887**

PROTECTING . . Goggles, face shields, filter lenses; data summaries. "Protective Equipment for Welders," Pages. Willson Products Inc., 111 Thorn St., Reading, Pa. **IEN-0888**

PUMPS . . Pneumatic units for thin or heavy fluids in original drums; selection chart, guns, accessories. Bulletin 700, 12 pages. Binks Mfg. Co., 3122 Carroll Ave., Chicago 12, Ill. **IEN-0889**

PUMPS . . Hydraulic equipment for aircraft; data summaries on pumps, motors, valves, accumulators, drives. Bulletin A-5200, 4 pages. Vickers Inc., 1398 Oakman Blvd., Detroit 32, Mich. **IEN-0890**

PUMPS . . List of stainless alloys; analyses for Worthite and other metals. Pocket folder W-350-M4B, 8 pages. Worthington Pump & Machy. Corp., 423 Worthington Ave., Harrison, N. J. **IEN-0891**

PYROMETERS . . For temperature of molten steel; notes on use of two types, chart samples. Folder N-33-640(1), 8 pages. Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia 44, Pa. **IEN-0892**

RECORD KEEPING . . Transparent plastic shop envelopes; examples, sizes, list prices. "V. P. D. Envelopes," 4 pages. Clear Vue Process Co., 303-7 Kosciusko St., Brooklyn 20, N. Y. **IEN-0893**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 7293 if you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

COOLANT FILTRATION . . . Magnets remove over 98% of all contamination

New Houdaille Magnetic Filter, for machine tools such as wet surface grinders, milling machines, gear shapers, etc., removes over 98% of contaminants from liquid coolants (mineral oils and soluble oil solutions)—provides continuous flow of clean coolant to the work or machine sump for re-use. Compact unit measures 22⅝" long by 16½" high by 22" wide.

Removal of contaminants accomplished by permanent ring magnets enclosed in revolving non-magnetic cylinder. Circular steel discs, end pieces of the cylinder acting as magnetic poles, seal off magnet cores to prevent fluid from contacting magnets. Design provides 360° constant magnetic attraction.

Turbulent flow of coolant beneath cylinder keeps metallic particles in suspension until attracted to metallic poles. Abrasive non-magnetic particles entrained with magnetized contaminants are collected by non-magnetic wiper trough, fitted to magnetic cylinder. Friction eliminated as trough does not rub on cylinder—using instead accumulation of magnetized particles to wipe mass of contamination as cylinder revolves past trough.

Unit rated at 20 GPM. Provisions in design prevent spillage when operated above rated capacity. Operates on 1/12 hp. 60 cycle 110 volt single phase motor. Requires no maintenance—provides longer tool and wheel life, better finishes, fewer rejects. Write for equipment bulletin.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

BREVITY—Identify by IEN - 7294 if you write the maker

REALOCK
PROTECTION PLUS

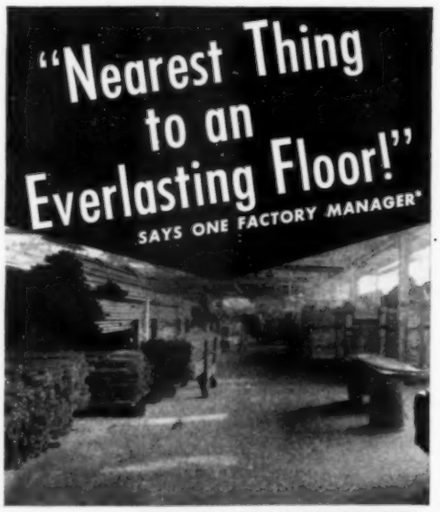
- All fittings, hinges and locking devices have bolts *on the inside*, secure from tampering.
- Heavily galvanized by a special process, Realock Fence is weather-resistant, extra strong and durable...costs little or nothing for maintenance. Supplied only with malleable base with pressed steel arms (inset) in the East.

For complete details refer to Sweet's Catalog. For free estimate consult your classified telephone directory—or write direct.

REALOCK FENCE

WICKWIRE SPENCER STEEL DIVISION 361 Delaware Ave., Buffalo 2, N.Y.
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Col.
THE CALIFORNIA WIRE CLOTH CORP. 1080 - 19th Avenue, Oakland 6, California
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

BREVITY—Identify by IEN - 7295 if you write the maker



Floors of EMERI-CRETE
made with CORTLAND EMERY AGGREGATE

End Floor Maintenance for Years

For use on new floors or resurfacing old ones, wherever floors take a beating or maintenance costs are a headache! Applies as easily as ordinary concrete and outwears it many times over. Resists the effects of practically every processing material as well as extreme heat and cold. Even, non-skid surface prevents accidents.

Records of hundreds of EMERI-CRETE FLOORS, made with CORTLAND EMERY AGGREGATE, show that they have all but eliminated maintenance costs. EMERI-CRETE, made with CORTLAND EMERY AGGREGATE, is 100% natural crushed emery, cement and water. It bonds to the underlying concrete slab to form a hard "armor plate" that is practically immune to wear—the world's toughest floor . . . and the cheapest, on a year-in, year-out basis.

**Name on request*

• DON'T SPEND ANOTHER DOLLAR ON FLOOR MAINTENANCE UNTIL YOU HAVE THE FACTS ON EMERI-CRETE, made with CORTLAND EMERY AGGREGATE

WALTER MAGUIRE COMPANY, INC., DEPT. IEN
60 E. 42nd Street, New York 17, N. Y.
☐ Please send detailed bulletin on EMERI-CRETE, made with CORTLAND EMERY AGGREGATE
☐ Have representative make floor survey.
NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▼ BREVITY—Identify by IEN - 7297 if you write the maker ▼

JOY WG-9 "Industrial-Air" COMPRESSOR

Saves space—gives you top efficiency—built for heavy duty

- ★ Full force-feed lubrication of all working parts
- ★ Replaceable cylinder liners and crosshead guides
- ★ Small floor area and simple foundation requirements
- ★ Anti-friction main bearings

17 Sizes—99.6 to 881 CFM
20 to 150 psi

FREE BULLETIN

For complete details, write for new Bulletin A-43, or...

Consult a Joy Engineer

W&D 13088

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

▼ BREVITY—Identify by IEN - 7300 if you write the maker ▼

MAGNIFYING . . Illuminated instrument for internal bore inspection application

Source: TESTA MFG. CO.
420 S. Pecan St., Los Angeles 33, Calif.

Internal walls appear magnified in the illuminated optical field of this new Borescope. The tubular unit has been developed for research and inspection to investigate and search for flaws on inside surfaces of various machine components. It can be inserted through the spark plug opening in an engine cylinder or through a screw hole measuring ½ in. in diameter for internal inspection in crank cases, castings, housings. Overall length is 18 inches. Insertion length is 12 inches.

The optical equipment includes a set of 12 corrected achromatized fluoride-coated lenses to provide a 30-deg. included-angle field of vision. On the inner end is an elliptical first-surface mirror which has been ground optically to eliminate distortion. The angle of this mirror can be adjusted by hand to 45 deg. on either side. In normal position it produces a view at right angles to the housing tube. Magnification depends upon the distance between the mirror and the inspected surface to provide 6¼X at 3 in. down to 2X at 12 inches.

Illumination is provided by a built-in socket and acid-frosted lamp operating normally on 12 volts or, for shorter life and brighter illumination, at 18 volts.

▼ BREVITY—Identify by IEN - 7303 if you write the maker ▼

NEW USE FOR FULLERGRIPT BRUSHES

Now on Pratt & Whitney Vertical Die and Surface Grinders

On the new P & W Vertical Die and Surface Grinder a circular strip of Fullergript brush is mounted on the guard surrounding the grinding wheel to protect the operator from spray and to concentrate coolant on the work. Fullergript was selected because the brush material—in this case abrasion-resisting nylon—is densely packed, and anchored in a rust-resistant metal channel. Fullergript can be formed into innumerable shapes and attached to stationary or power-driven mountings. For ideas on how Fullergript can help you, send for booklet, "Fullergript Power Brushes".

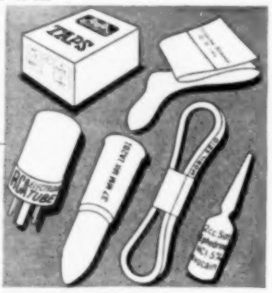
FULLER BRUSH — FULLERGRIPT — At home—in business, too

THE FULLER BRUSH COMPANY
INDUSTRIAL DIV., 3583 MAIN ST., HARTFORD 2, CONN.

▼ BREVITY—Identify by IEN - 7298 if you write the maker ▼

MARKEM®

marks them all



FROM ARTILLERY SHELLS TO MEDICAL AMPULES

MASTERS OF MARKING — Since 1911

Markem methods, machines, type and inks have been marking the products of industry for forty years. Markem machines can mark up to many thousands of pieces per hour. They make clear, durable imprints on flat, curved or irregular surfaces of paint, paper, wood, glass, metal, leather, plastic, rubber, fabric, composition and pressure sensitive tapes. No special skill is needed for their operation. Legend and color of imprint may be quickly and easily changed.

MAKE YOUR MARK WITH MARKEM

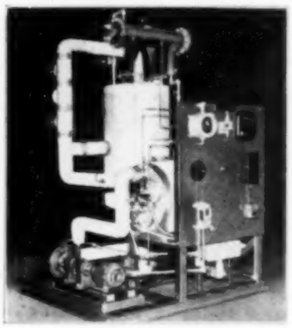
When your products need marking for Identification, Control or Market — ask Markem. Submit your problem, together with a sample of the item to be marked. Markem Machine Company, Keene 2, New Hampshire.

MARKEM — BETTER MARKING SINCE 1911

▼ BREVITY—Identify by IEN - 7301 if you write the maker ▼

PROCESSING . . Heat transfer unit for electric operation to 750 deg. F.

Source: STRUTHERS WELLS CORP.
1001-5 Pennsylvania Ave., Warren, Pa.



Dowtherm or similar heat-transfer fluid is heated electrically by this new equipment and is circulated by a motor-driven pump for process use. Capacities range from 100,000 to 500,000 btu. per hour. The assembly includes the heater with its electric immersion elements, an insulated storage tank for supply and condensate return and the essential control equipment with valves, gages and accessories.

The heating medium can be employed in liquid form or can be vaporized and used for heating. Five sizes in the line rate 10 to 50 gpm. in liquid circulation. Storage capacity is 50 to 125 gallons. Electric input is 36 to 153 kw. with four to 17 elements. Cooling action also can be provided with cooling surface rated at 15 to 66 sq. ft. and cooling-water circulation at 8 to 40 gpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 7304 if you write the maker ▼

Don't monkey around with fragile profits!

insure production economies with Cherry Rivets

CHERRY RIVETS are installed from one side of your job by one man—faster, easier and with lower costs because Cherry Rivets are handled so easily. A pulling action does the work—no twisting, no hammering. If you haven't met this money-saver yet, take a moment today and write for free booklet.

Address Department G-112

Cherry Rivet co.
A Division of Townsend Company
231 Winston Street, Los Angeles 13, California

▼ BREVITY—Identify by IEN - 7299 if you write the maker ▼

NO OTHER CLEANER CAN KEEP YOUR FLOORS "HEALTHY-CLEAN" AND SAFE FOR LESS!

The Hillyard Chemical Company, pioneer manufacturers of floor treatment and maintenance products, makes this claim based on 47 years of scientific research field testing. A claim **strengthened** by the recognition and approval of flooring contractors and builders . . . **verified** by the years of CONTINUED and successful service in thousands of the nation's finest buildings.

Compare These IMPORTANT ADVANTAGES

Super SHINE-ALL

1 **DISSOLVES Dirt** by 100% cleansing action that emulsifies oils and greases. Its safe, gentle action is neutral and chemical . . . does a **complete** job on **any** surface.

2 **ELIMINATES Rinsing.** Leaves no sticky, soapy film, or whitish residue that requires waste in successive rinsings. Shortens labor-time by 1 whole process. Reduces cleaning costs up to 50%.

3 **INTENSIFIES BEAUTY.** Reveals colors and original finish more vividly—unclouded by dulling film. Super Shine-All cleaned floors retain natural oils—won't dry out—wear longer.

4 **SAFER Underfoot.** Provides a protective film that can be polished to attractive non-skid lustre. One of few cleaners approved "anti-slip" by testing laboratories of the nation's insurance companies and approved by manufacturers of all types of floors.

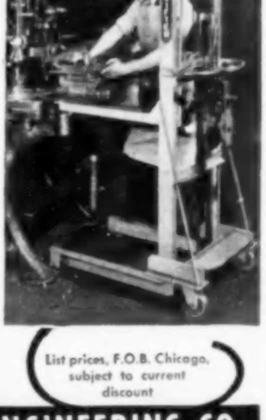
WRITE for full information on Super Shine-All. The superior Hillyard cleaner. There's a Hillyard Maintaineer near you for Free advice, help with any floor problem.

Dept. D 1-7 St. Joseph, Missouri
Warehouse Stocks in Principal Cities

HANDLE WITH HILLYARD CARE!

▼ BREVITY—Identify by IEN - 7302 if you write the maker ▼

Cut production costs with a SHOPLIFTER



All steel, welded, framework. Easily operated hoist unit with automatic brake, holds load at any height.

500 pound capacity
Type D,
hand operated $254.00

1000 pound capacity
Type DX,
hand operated $490.00

2000 pound capacity
Type DX,
hand operated $590.00

Floor lock to hold machine steady: $16.00 extra for 500 pound sizes; $24.00 extra for type DX models.

PROMPT DELIVERY

4502 W. Lake Street
Chicago 24, Illinois

List prices, F.O.B. Chicago, subject to current discount

ECONOMY ENGINEERING CO.

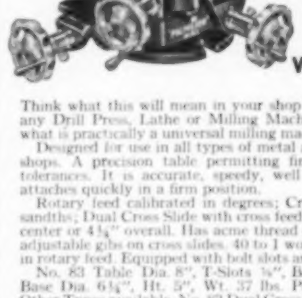
▼ BREVITY—Identify by IEN - 7305 if you write the maker ▼

DUAL CROSS and ROTARY FEED

PALMGREN

Rotary, Index, Milling Table

No. 83



Now Only $54.50

Turns Your DRILL PRESS Into A VERTICAL MILLER

Think what this will mean in your shop! Can be used on any Drill Press, Lathe or Milling Machine and provides what is practically a universal milling machine.

Designed for use in all types of metal and woodworking shops. A precision table permitting fine work to close tolerances. It is accurate, speedy, well constructed and attaches quickly in a firm position.

Rotary feed calibrated in degrees; Cross feed in thousandths; Dual Cross Slide with cross feed 2⅛" each side of center or 4¼" overall. Has acme thread cross feed screws, adjustable gibs on cross slides. 40 to 1 worm and gear ratio in rotary feed. Equipped with bolt slots and locking screws.

No. 83 Table Dia. 8", T-Slots ⅜", Base Keyway ⅜", Base Dia. 6¼", Ht. 5", Wt. 37 lbs. Price Only $54.50. Other Types available, No. 82 Dual Cross Feed only $42.75; No. 86 Rotary Feed Only $46.75.

Order Today! If dealer can't supply, write us. Ask for Circular No. 10

CHICAGO TOOL and ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8406 South Chicago Ave. • Chicago 17, Ill.

BREVITY—Identify by IEN - 7306 if you write the maker

Save Labor

THIS WAY

OLD WAY--Three Men

SABIN One-Man BARREL TRUCK

NEW WAY--One Man

ONE MAN and a Sabin Trunck can easily handle loads up to 800 pounds and faster, too, than with one or two helpers and an ordinary truck.

OPERATION IS SIMPLE. You run truck up to container, hook on at top, and pull back one handle to pick up load.

Third Wheel Feature ensures better balance when traveling with load, and adds to safety.

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PACKAGING BY PREDETERMINED COUNT
LINEAL MEASUREMENTS
FREQUENCY MEASUREMENTS
TIME INTERVAL CONTROL

Potter

HIGH SPEED ELECTRONIC

PREDETERMINED COUNTERS

The ONLY counter with ALL these features!

- COUNTS AT RATES UP TO 60,000 PER MINUTE
- ABSOLUTE ACCURACY
- INSTANTANEOUS AUTOMATIC RESET
- NO MOVING PARTS, FRICTION OR INERTIA
- SIMPLE DIAL SELECTION OF COUNT

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INCORPORATED
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☐ PACKAGING ☐ TIMING
☐ SORTING ☐ PROCESS CONTROL
☐ BATCHING ☐ FREQUENCY MEASUREMENT

NEW LITERATURE—Continued

"Check these for your catalog file"

RECORD KEEPING . . Insulated locking record cabinets with receding doors; models, arrangements. Folder 180-101, 4 pages. Herring-Hall-Marvin Safe, 1950 Grand Blvd., Hamilton, Ohio IEN-0894

RECORDING . . Instrument to plot two related variables on rectangular chart; specifications. Bulletin 330, 4 pages. Baldwin-Lima-Hamilton Corp., Paschall P. O., Philadelphia 42, Pa. IEN-0895

RECORDING . . "Macnick" instrument chart drives and hubs; details on Standard and Midget Models. Folder 1079-1, 6 pages. Rockwell Mfg. Co., 402 N. Lexington Ave., Pittsburgh 8, Pa. IEN-0896

RECORDING . . "Multipoint Capacilog" to make two to six records on one chart; condensed details. Bulletin PMC-1, 4 pages. Wheelco Instr. Co., 845-49 W. Harrison St., Chicago 7, Ill. IEN-0897

RECTIFIERS . . "Selctron" selenium rectifiers; ratings on miniature and power units, applications. Bulletin 104, 16 pages. Radio Receptor Co., 251 W. 19th St., 5th Flr., New York 11, N. Y. IEN-0898

REFRACTORIES . . "Nojoint" plastic-form refractory for monolithic settings; application notes. Bulletin 100, 4 pages. Ironton Fire Brick Co., Ashtabula & 13th, Ironton, Ohio IEN-0899

REFRIGERATING . . Equipment for liquified-gas producing, handling and storage; data summaries. "1951 Products," 20 pages. Arthur D. Little Inc., 28-32 Memorial, Cambridge 42, Mass. IEN-0900

RESEARCH . . Results of cavitation studies with notes on the equipment employed. "Accelerated Cavitation Research," 20 pages. Allis-Chalmers Mfg. Co., 909 S. 70th St., Milwaukee 14, Wis. IEN-0901

RESEARCH . . Story of company's research, development and testing organization. "30 Year History," 32 pages. Foster D. Snell Inc., 29 W. 15th St., 9th Flr., New York 11, N. Y. IEN-0902

RESISTORS . . Type-BT "Advanced" 1/3 to 2-watt resistors; performance curves, ratings. Bulletin B-1, 12 pages. International Resistance Co., 407 N. Broad St., Philadelphia 8, Pa. IEN-0903

RHEOSTATS . . Type-Q potentiometer, 500 ohms to 10 megohms; characteristics, drawings. Bulletin A-4, 4 pages. International Resistance Co., 407 N. Broad St., Philadelphia 8, Pa. IEN-0904

SCREW DRIVING . . "Hy-Pro" insert bits and holders for Phillips-head screws; types, list prices. "Price List," 6 pages. Continental Screw Co., 700 Mt. Pleasant, New Bedford, Mass. IEN-0905

SEALING . . "Cel-O-Seal" cellulose bands for product, tube, other sealing; suggestions. "101 Ways" 12 pages. E. I. du Pont de Nemours & Co., 2518 Nemours Bldg., Wilmington 98, Del. IEN-0906

SEALING . . "Self-Stik" cloth and paper adhesive tapes; types with corresponding JAN and UUT numbers. Form 2195, 4 pages. Mystik Adhesive, 2633-37 N. Kildare Ave., Chicago 39, Ill. IEN-0907

SEALING . . Metal and asbestos gaskets, also Teflon gaskets, packings and products; dimension tables. General Catalog, 52 pages. United States Gasket Co., P. O. Box 93-A, Camden, N. J. IEN-0908

SEPARATING . . Permanent-magnet separators for tramp iron in process materials; models, specifications, detector. Catalog 15, 16 pages. Eriez Mfg. Co., 1303 E. 12th St., Erie, Pa. IEN-0909

SEPARATING . . "Vape-Sorber" unit to remove petroleum vapor, water, dirt, from compressed air, gas; operation. Bulletin SC-10.X3, 4 pages. Selas Corp., 551 E. Erie Ave., Philadelphia 34, Pa. IEN-0910

SIGNALING . . "Vericolor" industrial color television; review, color picture examples. Bulletin EL-105, 8 pages. Remington Rand Inc., 315 Fourth Ave., Room 1618, New York 10, N. Y. IEN-0911

SLITTING . . And rewinding machine for thin sheet in roll form; operation, attachments. "Razor Blade Slitter," 8 pages. Chas. Beck Machine Corp., 412-14 N. 13th, Philadelphia 8, Pa. IEN-0912

SPRAYING . . Nozzles for water cooling, industrial process use; types, capacity charts, uses. Bulletin N-617, 20 pages. Yarnall-Waring Co., 122 Mermaid Lane, Philadelphia 18, Pa. IEN-0913

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

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Power failure can start a lot of trouble for theater operators, hospitals, institutions, churches, schools, police, fire and other municipal departments. Injuries, loss of life, and property damage can lead to lawsuits and heavy damage claims.

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For constant or interchangeable coding, inspecting, identification or decorating of a limited number of parts a day, a hand or rocker-style stamp may be all you'll need. Where your production runs into thousands every day, you'll prefer an automatic, high-speed marking unit. In either case, you'll do it better with a Matthews Marking Device.

Write or phone your nearest Matthews Sales Office today for complete information and literature . . . Bulletin LI-M.

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... the handiest tool in the plant

Just think of the jobs you can do with this sturdy, low-cost puller

LIFTS OR PULLS at any angle up to 12,000 POUNDS

¾ ton model weighs only 13 lbs. One of the handiest tools ever devised. Does thousands of lifting and pulling jobs. Eliminates unsafe, makeshift methods. Gets work done fast. Costs very little. Pays for itself in countless ways. *Ask your distributor to demonstrate it for you.*

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Will Weld Any Small Part Better, Faster, At Lower Cost

*Reg. U. S. Pat. Off.

Raytheon Condenser Weldpower Control Units, complete with Model G Weldpower Head, are available in 63, 225 and 1080 watt-second capacity.

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RAYTHEON *Excellence in Electronics*

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Clean equipment & parts with *non-inflammable, non-toxic*

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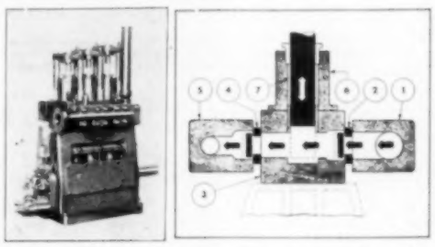
THE PENETONE CO.
BOX IEN 751 • TENAFLY, N. J.

BREVITY—Identify by IEN - 7316 if you write the maker

PUMPS . . Multi cylinder hydraulic, 3 in. stroke, 1⅜ to 2½ in. rams

Source: ALDRICH PUMP CO.
20 Gordon St., Allentown, Pa.



Series 3802 is a new 3 in. stroke triplex assembly added by the company to its larger Direct-Flow pumps. The new unit is designed for operating speed to 500 rpm. Pressure is maximum at about 2,600 lb. when equipped with 1⅜ in. rams or plungers. Displacement at this speed is 28.9 gpm. The largest, 2½ in., plungers can be applied on pressure maximum at 790 lb. for 95.6 gpm. displacement at 500 rpm. Suction opening is a 3 or 4 in. flange. Discharge is threaded for 2 in. pipe. Overall length is about 54 in. with width about 30 in. and height at 53 in., with the plungers up.

Flow is from the suction manifold 1 through the intake valve 2, the cylinder barrel 3, the outlet valve 4 to the outlet manifold 5. The valve assemblies are held in place by the manifold. The stuffing box mounts in the barrel and is interchangeable for the various sizes of interchangeable plunger 7. Detail information in 6-page bulletin 64-A.

BREVITY—Identify by IEN - 7317 if you write the maker

VENTILATING . . Power exhauster discharges bad air, fumes, through roof

Source: ILG ELECTRIC VENTILATING CO.
2812 N. Crawford Ave., Chicago 41, Ill.

Vertical motor enclosed under a hinged hood at the top of this new Type-PRV ventilator is mounted on a ribbed rectangular plate. It, in turn, is assembled on rubber sound-dampening strips on the structural blower housing. The centrifugal blower in this housing draws air upward through a roof opening and also draws a portion downward through the motor to keep the latter cool.

The blower discharges through screened baffles, each removable on the four sides of the housing. Beneath the blower is a gravity shutter in standard construction. It can be replaced with a motor-operated shutter, a manually-operated air controller or a motor-operated air controller to specification. Interior surfaces are coated to prevent condensation.

The unit is available in eleven sizes, each in two to four speeds. Overall range is 1/20 to 9½ hp. with air-handling capacity at 400 to 25,300 cfm. on free delivery. Dimensions of the square base range from 8⅛ to 48⅝ inches. Overall height is about 31 to 67 inches.

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BREVITY—Identify by IEN - 7318 if you write the maker

COBURN FIRE DOOR HARDWARE

Metal clad or Kalomine doors, installed with Coburn Fire Door Hardware, reduce fire hazards, and lower insurance rates.

Coburn Fire Door Hardware is made to specifications of The National Board of Fire Underwriters and, where necessary, bear the U. L. I. label. Special sets available for single and double incline or level slide doors; single and double swing doors; vertically operated doors. All equipped with automatic self-closing devices. Write for catalog #210 showing full line of hardware, charts showing required headroom; wall space and other information.

Engineering help available without obligation.

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Pacific Coast — The California Wire Cloth Corporation, Oakland 6, California

BREVITY—Identify by IEN - 7319 if you write the maker

"Better finished product . . ." says Eastern linoleum manufacturer

● This linoleum tile processor uses Cyclone Flat Wire Conveyor Belts to carry hot linoleum from banberry through cooling, cutting, waxing and packing operations. The maximum open area of the belt, the exact timing obtainable by a direct drive, the smoothness of operation, and the extremely flat surface of the belt result in a more perfect finished product . . . free from markings.

Our experienced engineers will be glad to advise you on which of our three belt types—Flat Wire, Chain Link or Flex-Grid—will do the best job in your plant. Get in touch with our nearest sales office. There is no obligation. And send for a free copy of our Catalog S4.

CYCLONE FENCE DIVISION
(American Steel & Wire Company)
Dept. C-71, WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

CYCLONE METAL CONVEYOR BELTS
UNITED STATES STEEL

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Heavy drums are easily handled with an inexpensive Tramrail crane and are piled high safely with a chain, electric or air hoist (illustrated above). All drums easily reached. Very little aisle space required. Storage capacity of given area often increased 100% and more.

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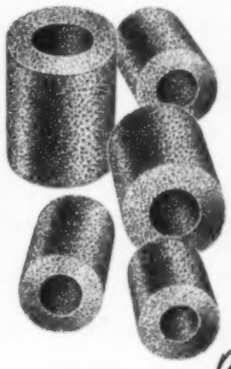

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Chicago Internal Grinding Wheels produce better finishes with longer wheel life and cutting action. They're your best buy—"tailor made" to your specifications and speedily delivered.

Advanced production methods assure you perfectly balanced Internal Wheels to meet rigid finishing requirements. Faster delivery . . . with overnight service for special jobs.

WRITE TODAY for full details on all Chicago Wheel products . . . and *free* sample Chicago Internal Grinding Wheel.

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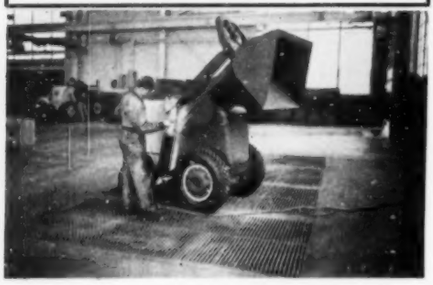
The Case of the Missing PAINT SPRAY BOOTH



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R-P Paint Arrestors—easily, economically installed under the floor grill, makes this installation possible. Save labor, material, maintenance costs with this flexible, effective systems of overspray removal.

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RP . . . PRODUCTS OF RESEARCH

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Let your Dolge Service Man make a complete sanitary survey of your premises with a view to helping achieve more effective, efficient, economical maintenance.

Send for Booklet No. 12

dependable DOLGE
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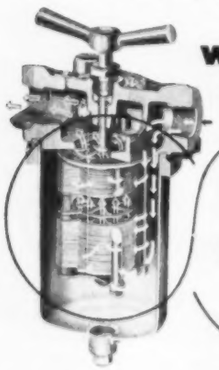

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is non-stopping (A)
and
is permanent (B)
and
handles full flow (C)
and
guarantees performance (D) ?

A. Cuno AUTO-KLEAN is continuously-cleanable, manually or automatically, without stopping flow

B. Cuno AUTO-KLEAN is all-metal, disc-type, non-collapsible

C. Cuno AUTO-KLEAN can handle full flow—a few to more than 4000 gpm—in same space as usual partial-flow type

D. Cuno AUTO-KLEAN will remove all particles larger than specified—from .0035 in. to .062 in.

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Removes More Sizes of Solids from More Types of Fluids

Widely used on lubricating, hydraulic and fuel oils, water, and all industrial fluids.

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SWITCHES . . Toggle units, lamp sockets, porcelain receptacles and fixtures; descriptions, ratings. Catalog 18, 28 pages. John I. Paulding Inc., 50 Kings Highway, New Bedford, Mass. **IEN-0914**

TESTING . . Type U-1 load cells for tension or compression; data on 500 to 50,000-lb. units. Bulletin 324, 2 pages. Baldwin-Lima-Hamilton Corp., Paschall P. O., Philadelphia 42, Pa. **IEN-0915**

TESTING . . "Labmarker" unit to produce timing pulses on a cathode-ray tube; description, models, list prices. Bulletin B-1, 2 pages. Berkshire Laboratories, Box 70-F, Concord, Mass. **IEN-0916**

TESTING . . Recording oscillographs, strain and surface-roughness analyzers; illustrated data. Bulletin 618, 8 pages. Brush Development Co., 3631 Perkins Ave., Cleveland 14, Ohio **IEN-0917**

TESTING . . "Dyna-Cath" mercury-cathode unit for chemical quantitative analysis; instructions. "Working Manual," 24 pages. Eberbach & Son Co., P. O. Box 63-A, Ann Arbor, Mich. **IEN-0918**

TESTING . . Instruments to test properties of paints, other materials; data on 75 units. "Testing Instruments," 32 pages. Henry A. Gardner Laboratory, 4725 Elm St., Bethesda 14, Md. **IEN-0919**

THREADING . . Portable power drive for pipe threading with hand tools, ½ to 2 inch; setup pictures. "Power Drive," 4 pages. Vermette Machine Co., 409-13 Gostlin St., Hammond, Ind. **IEN-0920**

TIMING . . Electric clock movements and switch timers; models, specifications, accessories. Bulletin CM-11, 12 pages. Sessions Clock Co., 50 Horton St., Dept. 6, Forestville, Conn. **IEN-0921**

TRUCKS . . "Hydro-Lectric" operator walk lift trucks; condensed specifications. Four data sheets, 2 pages each. Lift Trucks Inc., 2423-27 Spring Grove Ave., Cincinnati 14, Ohio **IEN-0922**

TRUCKS . . Motorized hand truck in platform, pallet and lift models; construction points, standard models. Bulletin 51, 6 pages. Moto-Truc Co., 1955 E. 59th St., Cleveland 3, Ohio **IEN-0923**

TRUCKS . . Fork-lift and straddle trucks for 5,000 to 45,000-lb. loads; picture summary, attachments. "A Quick Look," 8 pages. Ross Carrier Co., 738-42 Miller St., Benton Harbor, Mich. **IEN-0924**

TRUCKS . . Two-wheel and four-wheel hand trucks in a range of designs; specifications. Catalog, "Weld-Bilt," 20 pages. West Bend Equipment Corp., 297-301 S. Water St., West Bend, Wis. **IEN-0925**

TUBES . . "Croloy" alloy-steel tube and pipe for high-temperature service; 3-page chart on properties. Bulletin 12-F, 6 pages. Babcock & Wilcox Tube Co., 4027-31 Fourth Ave., Beaver Falls, Pa. **IEN-0926**

TUMBLING . . Machines for product finishing; specifications, parts, handling equipment. "Tumble Finishing," 40 pages. Crown Rheostat & Supply Co., 3461 N. Kimball, Chicago 18, Ill. **IEN-0927**

VALVES . . Pneumatic operating valves; data on hand, foot, pilot, solenoid, other types. Catalog 51, 44 pages. Ross Operating Valve Co., 118-22 E. Golden Gate Ave., Detroit 3, Mich. **IEN-0928**

VALVES . . "No-Drip" faucet for coffee urns in plant lunch rooms, cafeterias; models, specifications. Catalog A-151, 16 pages. Tomlinson Industries Inc., 1993 St. Clair, Cleveland 14, Ohio **IEN-0929**

WATER TREATING . . Materials and application service for industry; scope, water troubles and remedies. Bulletin 501, 16 pages. Brooks Chemicals Inc., 3302-6 E. 87th, Cleveland 27, Ohio **IEN-0930**

WATER TREATING . . Sodium zeolite softeners; process, flow diagrams, operation, controls. Bulletin 4520, 32 pages. Cochrane Corp., 3132 North 17th St., Philadelphia 32, Pa. **IEN-0931**

WINCHES . . Hand and power units, hoists, car spotters, tractor attachment units; illustrated summary. Bulletin 150, 4 pages. Atlas Corp., 41 Norman St., Mountville, Lancaster Co., Pa. **IEN-0932**

WIRE ROPE FITTINGS . . Blocks and sheaves, 1½ to 500 ton; sizes, ratings, uses. Catalog 300-24, 24 pages. American Hoist & Derrick Co., 61 S. Robert St., St. Paul 1, Minn. **IEN-0933**

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. . . use efficient low-cost SPIRATUBE

You can help speed up production by giving him air when and where needed.

Retractable, durable, efficient, light-weight, non-collapsible Spiratube follows him around corners, down shafts, above and below decks, into out-of-the-way places . . . BLOWING OR EXHAUSTING. Designed for maximum air passage. Sections couple tight, fast, for permanent or portable service. Spiratube fits into present systems. Standard sizes for all requirements immediately available from well-stocked distributors—Coast-to-Coast. Used by leading public utilities, shops, mines, shipyards, and industry everywhere.

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Send specifications for quotation.

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cut the cost of bumps

REDUCE VEHICLE MAINTENANCE—by as much as 40%, depending upon operating conditions. Big, burly Mono-Cushions soak up more shock and shock load than any other type of tire, size for size.

REDUCE FLOOR WEAR—The jolt goes both ways when a vehicle hits a bump. Mono-Cushions protect both the truck and the floor from jolts, save you plenty on floor maintenance.

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REDUCE TIRE COSTS—Switching to Mono-Cushions has cut tire costs for users in all kinds of operations, from warehouses to steel mills. These babies are *tough* all the way through.

YOUR BEST SOURCE FOR TIRES is the manufacturer of your equipment. He can supply you, through his service branches, with the type of Monarch Tire engineered for your equipment.

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SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

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SPARK-PROOF FLOORS DISSIPATE STATIC ELECTRICTY

Condurock is a factory-prepared heavy-duty, spark-proof, conductive floor resurfacer that can be easily applied over concrete, brick, wood, metal or composition floors. Installations during the last war proved it to be an effective preventive against explosions caused by static electricity in laboratories and plants where black powder, igniter composition, tracer mixtures, mercury fulminate, lead azide, tetrol and other like materials are handled or processed.

Resurface your floors and other areas with Condurock now. It will dissipate static electricty and substantially remove explosion hazards. Write for complete details at once. Immediate shipments.

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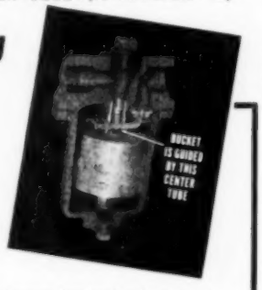
BREVITY—Identify by IEN - 7330 if you write the maker

Free Swinging Buckets CAUSE TRAP TROUBLE



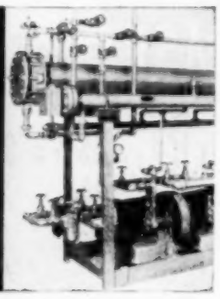
● Steam traps with free swinging buckets cause trouble sooner or later. Uncontrolled bucket action inevitably causes bucket damage and leads to high replacement costs. SUPER-SILVERTOP Steam Trap is the only steam trap with a patented *guided bucket*. A guided tube positively controls the bucket, eliminating the possibility of bucket swing. This is just one of the reasons why many manufacturers are changing their entire steam trap systems over to SUPER-SILVERTOPS. It will pay you to do the same. Talk it over with your nearest SUPER-SILVERTOP representative or write us direct.

THE V. D. ANDERSON COMPANY
1931 West 96th Street • Cleveland 2, Ohio

SUPER-SILVERTOP STEAM TRAPS

BREVITY—Identify by IEN - 7331 if you write the maker

TRENT Reliable... Low-Cost... Pre-Heaters



TRENT Electric Oil Heaters are made in three styles—Tube, Blade and Fin Tube—for standard pipe thread or flange attachment. Companion pipe assemblies furnished if desired. Write for Bulletin 74-TA.

Built to Provide TEN Outstanding Advantages

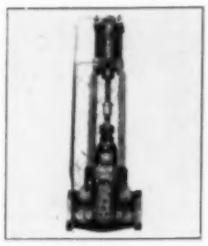
1. Underwriters' approved.
2. Rated 3 to 16 K. W.
3. Voltage 115 — 550 — 3 Phase.
4. Low Watt Density.
5. Minimum Carbonization.
6. Low Maintenance.
7. Designed for 300 lb. pressure.
8. Heavy duty terminals and terminal box.
9. Extra heavy flange or screw thread.
10. Temperature range up to 600° F.

TRENT INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE., PHILA 27 PA.

BREVITY—Identify by IEN - 7332 if you write the maker

VALVE . . Power actuator assembles with specified valve, damper

Source: LEDEEN MFG. CO.
1602 S. San Pedro St., Los Angeles 15, Calif.



New application of the company's line of power cylinders for operation on air, gas, oil, steam, water at pressures to 750 lb. is on valves of various types to provide a complete assembly for power operation with local or remote control. Each employs a standard cylinder in the company's line and standard control equipment.

The power cylinder is attached to the body of a gate valve, globe valve, diaphragm valve by a bracket designed for the purpose. The piston rod is coupled to the valve stem. The cylinder can be attached by a bracket to the valve body or by pendulum mounting to an outside frame, wall or structure to operate a plug or butterfly valve. Two cylinders are mounted on a base plate and are connected to provide forward, reverse and neutral positions for operation of slide valves.

Bulletin 512, 4 pages, presents illustrated data with sketches showing typical valve and actuator assemblies.

BREVITY—Identify by IEN - 7333 if you write the maker

FOUNDRIES . . Shakeout table concentrates vibration vertically

Source: SIMPLICITY ENGINEERING CO.
1951 Ralph St., Durand, Mich.

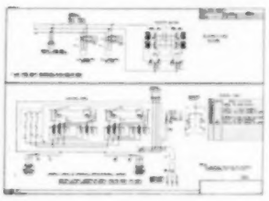
Please note our error

The company has pointed out our error in describing its new shakeout table, IEN-6283-51, as suited for core removal only. Actually it applies equally well on molds and flasks and will be sold for that purpose also.

BREVITY—Identify by IEN - 7334 if you write the maker

NAME PLATE . . Laminated plastic wiring circuits, diagrams, instructions

Source: ALLEGHENY PLASTICS INC.
319 Chestnut Road, Sewickley, Pa.



Schematic diagrams are now being fabricated by the company in laminated plastic in addition to its production of name plates, construction panels, meter charts, previously described IEN-13447-47. The user supplies the diagrams on paper for lamination between sheets of transparent plastic to present a neat finished appearance and resistance against attack by oils or grease or dampness. The lamination is permanent. The surface is washable.

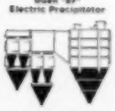
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7335 if you write the maker

buell KNOWS DUST RECOVERY

Buell van Tongeren Cyclone

Buell "SF" Electric Precipitator



Combination Cyclone-Precipitator Unit

WHENEVER industrial engineers discuss valuable dust recovery, Buell is the big name mentioned. For Buell offers knowledge and capabilities in dust recovery second to none. Only Buell Precipitator recovers ultra-fine dust with "Stedi-flow" dust fall – continuous cycle rapping that means constant peak efficiency. Buell large diameter cyclones do not plug, require next to no maintenance. Complete details on both types of equipment are available. Buell Engineering Co., Suite 5050, 70 Pine St., New York 5, N. Y.

buell

Engineered Efficiency in **Dust Recovery**

BREVITY—Identify by IEN - 7336 if you write the maker

FOR WELDING OPERATIONS

Challenge SEMI-STEEL LAYOUT SURFACE PLATES

With Tee-Slots to facilitate assembling, locating, and welding . . . these six-inch plates on 30-inch steel stand provide a true, rigid surface — perfectly smooth and square. Plates can be grooved and keyed so that two or more may be assembled and mounted into one complete unit. For example, four 54x144" plates into one huge unit 144x216". Arc-welded stand has lock-leveling screws. Write for complete list of sizes and prices.

THE CHALLENGE MACHINERY CO.
GRAND HAVEN, MICHIGAN

BREVITY—Identify by IEN - 7337 if you write the maker

Plenty of Places...

Where this 3-in-1 Workhorse Will Save Time and Work

SERVICE LIFTABLE

Table Top 26" x 43"

IT'S A WORK BENCH
A work bench on wheels, with a steel top that moves up and down—that's the Service "Liftable".

IT'S A TRUCK
Perfect for moving heavy dies, assemblies from one spot to another . . . saves lifting and carrying.

IT'S A LIFTER
Transfers heavy units from one table height to another—merely by cranking the top up or down to any height from 28" to 42".

To move heavy pieces, dies, assemblies vertically from one level to another—and then horizontally from one place to another — use the Service LIFTABLE. Lowered, the top is 28" from floor . . . raised, it's 42". Capacity 2000 lbs. . . . chain and screw lifting mechanism . . . all welded construction . . . locks positively at any height . . . readily portable. Cut handling costs—put LIFTABLES in your plant.

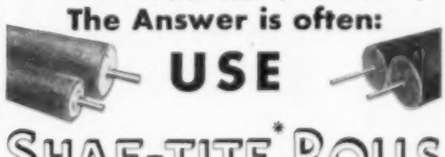
Get Descriptive Circular—Write Today.

SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
See your classified Telephone Directory for name of nearest Service Distributor

BREVITY—Identify by IEN - 7338 if you write the maker

The Answer is often:



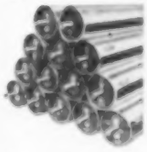
USE SHAF-TITE* ROLLS

Many Patented Constructions

Choice of

METAL, RUBBER, or WOOD ROLLS

Send For NEW ROLL CATALOG No. 48

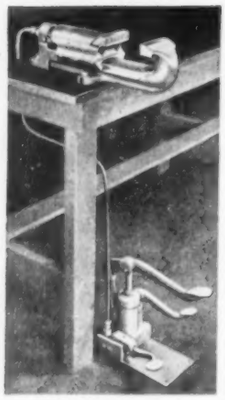


INDUSTRIAL ROLL DIVISION

RODNEY HUNT MACHINE CO.
873 Main Street — RODNEY HUNT — Orange, Mass., U.S.A.
*Reg. U.S. Pat. Off.

BREVITY—Identify by IEN - 7339 if you write the maker

New EFFICIENCY FOR ANY VISE JOB



"Both Hands Free"

STUDEBAKER HYDRAULIC SPEEDVISE

MAKES A HIGH PRODUCTION TOOL OF THE OLD FASHIONED SCREW VISE

This SPEEDVISE will cut your costs on precision assembly, forming, punching, presswork, cutting, straightening, bending and other vise jobs. Entirely foot controlled—operators hands free to guide work. Self contained — no outside power required. Slow or fast action — pressure from a feather touch to maximum. Can be mounted anywhere—portable.

Model 500 — Presures to 5 tons. Model 750 — Pressures to 7½ tons. Write for details and prices.

Studebaker MACHINE COMPANY
1235 S. 9th AVENUE, MAYWOOD, ILL.

BREVITY—Identify by IEN - 7340 if you write the maker

5 REASONS WHY Pannier "MASTER MARKER" SUPREME STAMPING HOLDERS are preferred

1. REPLACEABLE STAMPING HEAD — Increases holder life; will not mushroom or spall
2. ONE PIECE BODY — High-grade bar tool steel; no rivets or welded joints
3. TYPE KEY — Single bar simplifies type insertion; locks type in place
4. HARDENED ANVIL — Prevents wear; assures constant type alignment
5. STEEL TYPE — Famous job-proved Pannier "Master Marker" quality

Supreme Holder stamps multiple characters in hot or cold metal with one easy operation. Write for details of styles and sizes available.

OFFICES: Chicago Los Angeles Youngstown Philadelphia Jacksonville

THE PANNIER CORPORATION
101 Pannier Building
Pittsburgh 12, Pa.

BREVITY—Identify by IEN - 7341 if you write the maker

STANDARDIZE with our OHIO STOCK DISTRIBUTORS

In every industrial center across the country there is an Ohio Gear distributor, no further away than your phone, ready to supply you with Ohio "standardized" gears and speed reducers.

Whether your need is for a spur, helical, bevel, worm or worm wheel type gear, or for speed reducers from 1/6 to 10 HP in ratios from 3 to 1 up to 3000 to 1; chances are your Ohio Gear distributor may be able to supply you from STOCK.

The Ohio Gear representative serving you is qualified to help you solve your power transmission problems through engineering with "standardized" stock gears and speed reducers. This saves you money and time.

Ohio Gears and Speed Reducers have been engineered to perform to your satisfaction.

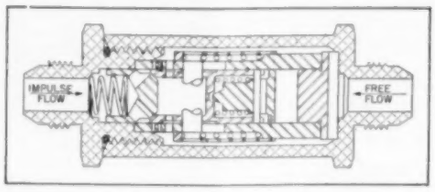
ESTABLISHED 1915
THE OHIO GEAR COMPANY
1345 East 179th St., Cleveland 10, Ohio

OHIO GEARS

BREVITY—Identify by IEN - 7342 if you write the maker

VALVE . . Flow control unit prevents hydraulic line shock pressure

Source: DENISON ENGINEERING CO.
1158-62 Dublin Road, Columbus 16, Ohio



Two sizes for industrial use, ½ and 1 in., with internal threads at each end, and four tube sizes between ¼ and ⅝ in., with external threads for aircraft application, are included in this new line of Surge Damping hydraulic valves. Models E-112P-8 and E-112P-16 are the two industrial units. They are recommended for pressures to 5,000 lb. and can be employed with pipe or tube of any size equal to or smaller than their ½ and 1-in. ratings.

The aircraft units are known as Type E-106T Nos. 4, 6, 8 and 10. They are suited for pressures to 3,000 pounds. In both cases flow is free in reverse direction through the valve. Shock is prevented in the opposite or impulse-flow direction.

The valve is built with a spool which is normally held closed by a spring to prevent flow from inlet to outlet in impulse direction. The spool moves toward an open position under control by a small pressure-responsive valve inside it when pressure is applied at the inlet. Only a fraction of a second is consumed in the operation between closed and open and after this period of smooth acceleration virtual free flow is maintained as long as fluid is flowing into the valve. When this flow is interrupted the valve resets.

A characteristic of the action is that opening is at a slower rate of speed when high pressures are enforced than under lower-pressure conditions. At the same time the rate of opening increases as pressure in the inlet side approaches that in the outlet. Overall dimensions of the two industrial units are 5 and 5⅞ in. in length by 1⅞ and 2¼ in. over the flats at the hexagon ends of the new assemblies.

BREVITY—Identify by IEN - 7343 if you write the maker

EXTINGUISHING . . Dry chemical unit holds 4 lb., delivers through hose

Source: ANSUL CHEMICAL CO.
Foot of Stanton, Marinette, Wis.

Type 4-B is a new dry-chemical hand extinguisher equipped with a rubber delivery hose and pressurized by a 1½-oz. carbon-dioxide cylinder in the chemical chamber. A self-closing nozzle completes the assembly. Operating range is 12 to 15 feet. Underwriters' Laboratories, Inc., rating is B2, C2.

Weight is 10½ lb. when the extinguisher is fully charged. A bracket and shipping container add 2 pounds. Overall dimensions are 5¾ by 5½ by 19 inches. The hose assembly is 15 in. in length.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7344 if you write the maker

PLAN TO ATTEND

The Instrument Industry through the necessities of the present emergency has reached a high peak of development, and is ready to consult with you and your engineers and operating men on the baffling problems of efficiency and economy, which are fast becoming the real headaches of plant operation.

Post yourself on the latest advances in instrumentation by attending. Bring your engineers and operating executives. No charge — admission by registration only.

Write for preliminary program to the Instrument Society of America, 921 Ridge Ave., Pittsburgh 12, Pa.

BREVITY—Identify by IEN - 7345 if you write the maker

FOR SAFETY—EFFICIENCY

The Kelly-Creswell INDUSTRIAL STRIPER

Designed specifically for industrial applications, inside and outside plant buildings. Clean, sharp lines for aisles, safety lanes, restricted areas, parking lots. Operates on any smooth or rough surface, concrete, asphalt, wood block, brick, metal.

Exclusive *Kelly-Creswell Air Curtains direct exhaust gas against edges of spray pattern, provide sharp, clean lines without contact with surface. Eliminate guide marks, scrapers. Save up to 20% on striping materials.*

- Outside mounted spray assembly permits striping within one inch of posts and walls.
- Spring loaded rear axle eliminates "wobble", even on rough surfaces.
- Striping gun, designed by DeVilbiss especially for striping work and manufactured exclusively for Kelly-Creswell.
- Stripe width quickly adjustable from 3 to 6 inches.

WRITE FOR COMPLETE INFORMATION

KELLY-CRESWELL CO. • Xenia 1, Ohio
World's Largest Manufacturers of Striping Equipment

BREVITY—Identify by IEN - 7346 if you write the maker

UN-O-VEYOR

UNIVERSAL OVERHEAD CONVEYOR

THE LOW-COST WAY TO BOOST PRODUCTION

Here's the first *New-Type* Chain invented in years—already a huge success in installations all over the country . . UN-O-VEYOR offers one exclusive feature after another to increase efficiency, boost production, cut maintenance—*yet cost is well within the budget of every plant operator.*

No matter how your work-flow is arranged, it's simple—and inexpensive—to install UN-O-VEYOR to handle it perfectly . . *Your own crew can erect it.*

Here's the ingenious patented UNIVERSAL JOINT and LOCK, cast as an integral part of the chain, which keeps cost down, sends operating efficiency up. MALLEABLE IRON LINKS resist wear, carry loads up to 150 lbs. and more per trolley . . BALL BEARING WHEELS (2 load and 2 thrust per set of links) are hardened steel, mean smooth, quiet operation.

AMAZINGLY FLEXIBLE . . SINGLE OR MULTIPLE DRIVE . . ANY DESIRED LENGTH CONVEYOR . . SINGLE OR MULTI-FLOOR LAYOUT . . NO CORNER SPROCKETS.

★ SEND FOR FURTHER DETAILS, PRICES, TODAY!

Michna SYSTEMS
CONVEYOR MANUFACTURERS & ENGINEERS
5051 S. WESTERN BLVD., CHICAGO 9, ILLINOIS

BREVITY—Identify by IEN - 7347 if you write the maker

A·S·R asked G.R.C.* answered

Where to get a small handle button, wear-and-water-resistant . . . light enough to be set in plastic . . . produced in large quantities, quickly and inexpensively?

Tiny GRC precision zinc die castings will make ideal handle buttons for the new Gem razor . . . meet to a T every ASR specification!

ASR's GEM — American Safety Razor's new Feather Weight Gem Razor . . . weighing only 1 1/10 oz.

*with GRC TINY PRECISION ZINC DIE CASTINGS

If obtaining really small parts speedily and economically is your problem, too, why not let GRC tackle it? Gries' revolutionary, high speed, mass production methods are geared to turn out simple or intricate parts in one automatic operation. Trimmed, ready for use . . . GRC zinc die castings as small as .000004 of a lb. in lots from 100,000 to millions . . . at a price to help you produce at a profit! Remember . . . it's GRC for *smallness unlimited.*

Write Today for Bulletin and Actual Part Samples

GRIES REPRODUCER CORP.
297 E. 132nd St., New York 54 • MO 9-2476

BREVITY—Identify by IEN - 7348 if you write the maker

CAL-WIC... for convenient source of supply

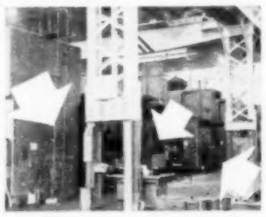
With plants on both the East and West Coast we are able to offer wire cloth users in all parts of the country a convenient and economical source of supply. Cal-Wic wire cloth meets a multitude of industrial needs; is available in most needed weaves, meshes and weights and in various metals and alloys. Write for illustrated descriptive catalog MS-661.

CAL-WIC INDUSTRIAL SCREENS CF&I

IN THE EAST—WICKWIRE SPENCER STEEL DIVISION • Clinton, Massachusetts
IN THE WEST—THE COLORADO FUEL & IRON CORP. • Denver 2, Colorado
ON THE PACIFIC COAST—THE CALIFORNIA WIRE CLOTH CORP., Oakland 6, Cal.

BREVITY—Identify by IEN - 7349 if you write the maker

One of largest, most modern automotive press plants



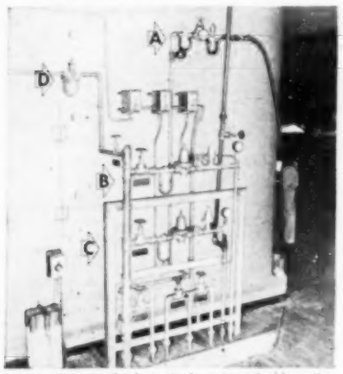
STANDARDIZES on NORGREN

equipped air-control panels for all large presses.

STANDARD for...

- easier servicing
- minimum spare parts stock
- uniform, efficient performance

Here is a planned "package" in air controls—a tip for press builders and press users alike. (A) Norgren Lubro-Control unit serving the "iron hand" which automatically pulls stampings from the press ...(B) Norgren Filter, Regulator and Relief Valve serve counter-balance cylinder, (C) Norgren Filter, Regulator, and Relief Valve serve pressure cylinder, (D) Norgren Lubricator serves air tools, such as die-grinders, etc.



Panel is standard on single action, double action and triple action presses—capacities from 600 tons to 900 tons.

For complete data write for APPLICATION DATA SHEET No. 110 C. A. Norgren Co., 232 Santa Fe Drive, Denver 9, Colo.

20th Year of Progress

Norgren

LUBRICATORS, REGULATORS, FILTERS, VALVES, HOSE ASSEMBLIES

BREVITY—Identify by IEN - 7351 if you write the maker

TESTING . . Portable gage and drive checks setting of powered torque tools

Source: RICHMONT INC.
2808-12 E. 11th St., Los Angeles 23, Calif.

Range is from 5 to 500 ft. lb. in this new Senior No. 500-D torque analyzer. This compares with the range from 5 to 150 ft. lb. in the No. 150-C assembly, previously described IEN-7614-49. Graduations on the dial in the new unit are in 2-ft. lb. increments from zero to 200 ft. lb. and in 5-ft. lb. increments from 200 to 500 foot pounds. Tests can be made on impact wrenches and powered torque tools of direct or cushioned-drive design at either of two drive connections, one for right-hand and one for left-hand **rotation.**

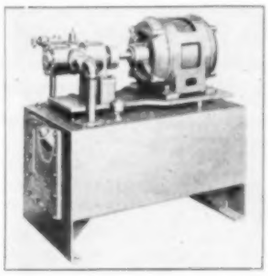
Torque at which a clutch releases, rates at which torque increases beyond the releasing point if the tool is held in engagement, are read on the gage. The point at which the torque clutch releases and impact begins can be determined. Power delivery of pure impact can be checked. The equipment applies with electric or pneumatic tools. It mounts on a caster-equipped stand. A tension-testing attachment is supplied to measure tension produced by bolt and nut assemblies in a range from 100 to 50,000 pounds.

Weight is 325 lb. and overall dimensions are 29 by 23 by 6 inches. The dial is 10 in. in diameter. List price is $2,500.

BREVITY—Identify by IEN - 7352 if you write the maker

DRIVES . . Hydraulic power unit with pump, motor, valve, reservoir

Source: VICKERS INC.
1398 Oakman Blvd., Detroit 32, Mich.



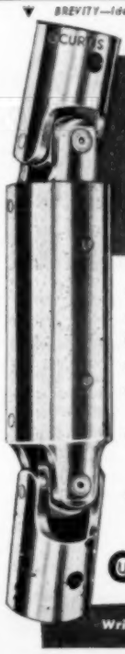
Sealed tank with ends extended downward, formed and braced, to serve as feet, a dished bottom, drain plug and clean-out holes feature the construction of this new JIC, hydraulic power unit. Motor and pump are mounted on a separate plate on top of the tank and the pump suction is extended down to an interior intake oil filter. At one end is a filler opening and flush-type oil-level gage. On the tank is a screened breather opening and three pipe-threaded holes for return and service connections.

Three tank sizes, Series T20, T30 and T60, hold 20, 30 and 60 gallons of oil. Ten models employ electric motors rating ¾ to 25 hp. The pump is available in single, double and two-pressure design for pressures to 1,000 lb. and in two-stage design for pressure to 2,000 pounds. Overall length ranges from 33½ to 48½ inches. Width is 16 to 27 inches. Height to the top of the motor base is about 21 to 24 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 7353 if you write the maker

FOR A QUARTER OF A CENTURY



1919 **CURTIS** 1951

Exclusively a manufacturer of

UNIVERSAL JOINTS

- Single or Double
- Solid-Centered or Bored
- Standard for heavy duty
- Lo-Friction for special duty
- Curtis quality exceeds the Class I standards set for the Army, Navy and Air Force
- 14 sizes in stock at all times ⅜" thru 4" O.D.
- We invite inquiry for other than stock sizes or for special application requirements.

CURTIS UNIVERSAL JOINT CO., INC.
7 BIRNIE AVENUE, SPRINGFIELD, MASS.

Write for free engineering data and price list

BREVITY—Identify by IEN - 7354 if you write the maker

HANNIFIN

75 STANDARD MODELS

Hydraulic Presses

Engineered To Meet Your Requirements

IT'S EASY to get hydraulic presses engineered to meet your particular requirements when you choose from the Hannifin line. 75 standard models, plus many special designs, in capacities ranging from 5 to as high as 500 tons are available for handling standard and special production jobs: straightening—press fit assembly—forming—molding—broaching and similar operations. Hannifin design readily permits modifications or variations from standard at moderate cost. Table size, gap, reach, control equipment, and ram speed can be altered easily to suit special conditions. Take advantage of Hannifin engineering service — ask for recommendations.

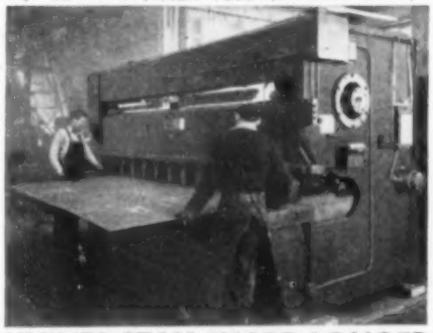
Right—Model F-250 forming press. Capacity 25 tons.

SEND FOR THIS CATALOG

BULLETIN 130, "Hannifin Standardized Hydraulic Presses," contains detailed information on Series F Forcing Presses, Series S Straightening Presses, and Series C Column Type Presses — Helpful specification and engineering data. ASK FOR YOUR COPY.

HANNIFIN CORPORATION 1107 S. Kilbourn Ave., Chicago 24

BREVITY—Identify by IEN - 7355 if you write the maker



KNIVES STAY SHARP LONGER

Knives on the Steelweld Shear above were practically as sharp as new, after months of continuous operation, 8 hours a day, 6 days a week. Cut pieces were burrless, straight and true. Long knife wear is the result of important features built into Steelweld Shears, such as solid one-piece frame, pivoted blade and easy knife adjustment.

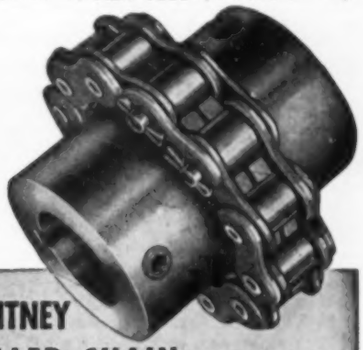
For better, faster, easier shearing get the facts on Steelweld Shears. For all plate up to 16'-0" long or 1¼" thick.

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
4222 East 282nd St., Wickliffe, Ohio

STEELWELD SHEARS

BREVITY—Identify by IEN - 7356 if you write the maker



WHITNEY ROLLER CHAIN *Flexible Couplings*

FOR YOUR DIRECT POWER DRIVE APPLICATIONS

Whitney Roller Chain Flexible Couplings offer the equipment manufacturer and machine user a practical and efficient unit for connecting power equipment to direct drives. All steel construction . . . precision roller chain and hardened cut tooth sprockets provide positive operation . . . assure long life.

Check these Whitney Flexible Coupling features, easily installed, allows for motor end float, disconnects without removing shafts or bearings, allows for slight shaft misalignment.

You can use Whitney Flexible Couplings wherever a positive yet flexible direct drive is required. Write for information.

WHITNEY CHAIN COMPANY
202 Hamilton Street Hartford 2, Connecticut

BREVITY—Identify by IEN - 7357 if you write the maker

DOUBLE-ACTION AIR CYLINDERS

Mounting	Bore				
Horizontal	1½"	2¼"	3"	4"	5"
Vertical	1½"	2¼"	3"	4"	5"
Face	1½"	2¼"	3"	4"	5"
Swivel	1½"	2¼"	3"	4"	5"

Length of stroke optional

The new Mead Air Power Catalog shows the full line of single and double-acting cylinders, and air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for Faster, money-saving production. Write today!

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. E-71-A, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 7358 if you write the maker

ROMANCE IN MACHINERY...

Abart GEARS ARE PERFECTLY MATCHED.... GO TOGETHER SMOOTHLY...

Precision-cut to your exact specifications, Abart Gears run smoothly and quietly — last longer. Severe inspection tests are made before delivery to assure you of trouble-free performance.

Abart will supply you with economical gears in any quantity, small or large, any material, in spurs, bevels, worms, helical, internal, worm wheels, spirals, sprockets or racks.

Send B/P, samples or specifications today for prompt quotation. We carry no stocks.

Abart GEAR & MACHINE CO.

4823 W. 16th Street — Chicago 50, Ill.

BREVITY—Identify by IEN - 7359 if you write the maker

On cut-off jobs ... *This is the saw that* SAVES TIME... MONEY... MANPOWER

WELLS No. 8 METAL CUTTING BAND SAW

Whether it's for production, general utility or both, the Wells No. 8 is an investment that will pay for itself many times over in savings of time, money and manpower. These savings can mean a lot in any shop . . . why not find out what they can mean to you. The Wells No. 8 has a capacity 8" x 16", rectangular, 8" diam., rounds. It is powered by a heavy duty ½ H.P. motor. Other sizes also available. See your Wells Dealer for further information or write for literature.

Products by Wells are Practical

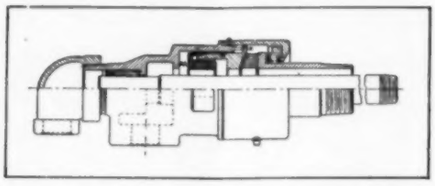
Wells METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1111 MADISON ST., THREE RIVERS, MICH.

BREVITY—Identify by IEN - 7360 if you write the maker

PIPE FITTING .. Rotary joint connects stationary and rotating lines

Source: ROTHERM ENGINEERING CO.
4909-13 W. Irving Park Road, Chicago 41, Ill.



Carbon ring in this new rotary joint presents a flat face on its right-hand side to seal against the rotating element on the right. It has a ball face on its left-hand side to compensate for misalignment against a socket ring inside the stationary housing. Leakage is stopped to the left of the ring by a Teflon wedge held in place by a spring-backed follower. The arrangement compensates for longitudinal movement due to expansion and contraction.

The joint is available in ½ to 5-in. pipe sizes for steam pressure to 150 lb. and for operation in a temperature range between minus 65 and plus 500 deg. F.

BREVITY—Identify by IEN - 7361 if you write the maker

WELDING .. Plastic cover plate protects helmet glass from spatter

Source: WILLSON PRODUCTS INC.
111 Thorn St., Reading, Pa.

To protect welding lens

Spatterproof is a new plastic cover plate or lens for use in welding helmets and goggles. It is made of a transparent plastic to withstand pitting as a result of contact with flying sparks from the welding operation. Sizes include 2 by 4½ in. and 50 mm. round. Thickness in both cases is 0.040 inch.

BREVITY—Identify by IEN - 7362 if you write the maker

TIMING .. Elapsed time unit accumulates closed circuit intervals

Source: R. W. CRAMER CO.
49 Saybrook Ave., Centerbrook, Conn.

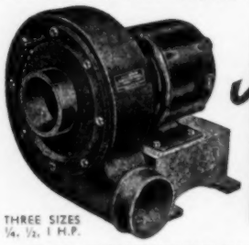
Hermetic sealing characterizes the construction of this new design of the company's Running Time Meter, previously described IEN-9947-47. The new unit meets the military requirements for this type of instrument. Service life is about five times that of the unsealed design.

The five-wheel counter enclosed in the housing is driven by a 110 or 220-volt 50 or 60-cycle synchronous motor to specification. The motor connects into an electric circuit for operation as long as the circuit is closed. The result is a record on the count of closed-circuit hours. Diameter measures 3¾ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7363 if you write the maker

READY TO RUN—IMMEDIATE DELIVERY!



Sutton MOTOR-DRIVEN PRESSURE BLOWERS

THREE SIZES ¼, ½, 1 H.P.

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY

CENTRIFUGAL TYPE designed to deliver an even, non-pulsating flow of air for blowing or exhausting. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. • Housing, base, supported, and impeller are constructed of cast aluminum alloy to reduce weight and increase strength. Straight wall construction reduces windage and increase efficiency. • Powered by standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor in choice of open or totally enclosed types. Three sizes: ¼, ½ and 1 H.P. with capacities from 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

USED FOR removing dust from grinding, buffing, and polishing equipment; for conveying cotton, wool, saw dust, shavings, etc.; for exhausting smoke fumes and vapor; to furnish blast for forges, furnaces, etc., and for cooling and drying purposes.

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE — NORFOLK, VIRGINIA

BREVITY—Identify by IEN - 7364 if you write the maker

SAFER LONGER...

Surety's Sureseal Synthetic has 10 times higher abrasion resistance, 4 times higher snag resistance, much higher chemical resistance than either rubber or standard synthetics.

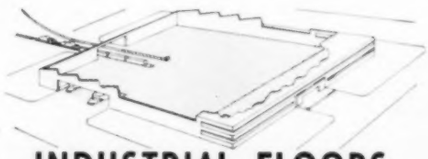
..SO THEY COST LESS

SURETY SURESEAL SYNTHETIC RUBBER GLOVES

THE SURETY RUBBER CO. Dept. I CARROLLTON, OHIO

IN CANADA: Safety Supply Co., Toronto, Ont.

BREVITY—Identify by IEN - 7365 if you write the maker



INDUSTRIAL FLOORS *Engineered*

TO YOUR PARTICULAR NEEDS

By having your floors engineered to meet your particular use, you can be sure of the best floor at the lowest cost with the least inconvenience.

Flash-Stone engineers, specializing in new and resurfaced floors, specify the correct formula of emery, composition or mastic according to service requirements. Any industrial floor, large or small. Materials only or materials and installation.

Write today for complete data

FLASH-STONE COMPANY INCORPORATED

36 E. RITTENHOUSE ST., PHILADELPHIA 44, PA.

Industrial Flooring

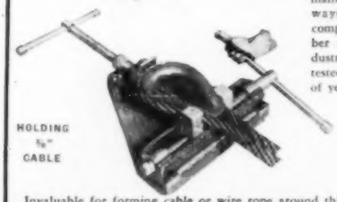
ENGINEERS • MANUFACTURERS • CONTRACTORS

BREVITY—Identify by IEN - 7366 if you write the maker

McDERMOTT Portable Riggers' Forming Vise

HANDLES CABLE AND WIRE ROPE FROM ⅜" TO 1½", INCLUSIVE, WITHOUT THE USE OF AN ADAPTER

In wide-spread use in the United States and Canada, wherever cable and wire rope are used by the leading industrial and steel manufacturers, railways, construction companies, oil, lumber and marine industries. Proven and tested over a number of years.



Invaluable for forming cable or wire rope around thimbles or fixtures, making slings for either splicing or "U" Bolt Clamp or Clip installations.

Write today for literature giving full details.

BIG FOUR MACHINE & SUPPLY CO.

1012-14 HALES BUILDING — OKLAHOMA CITY, OKLA.

BREVITY—Identify by IEN - 7367 if you write the maker

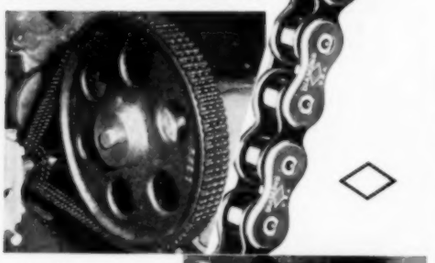
SAFEWAY . . . a new and rugged light weight chain hoist

Designed to keep pace with today's demands for greater efficiency in materials handling, this new Wright hoist is light in weight, high speed, compact, strong, easy to service, long lived. Capacities from ½ to 4 tons. Load chains of steel—heat treated—proof-tested—have high wearing qualities and high safety factor against possible impact loads. Weldments of projection type. Load wheel reversible. Weston type brake resistant to high temperatures; cold, wet and dusty atmosphere. Send for bulletin DH-164.

WRIGHT HOIST DIVISION
American Chain & Cable
York, Pa.

BREVITY—Identify by IEN - 7368 if you write the maker

IMPROVE MACHINERY PERFORMANCE WITH DIAMOND ROLLER CHAINS



No slip even where teeth almost touch

Long center drive

● Regardless of center distances and speeds, Diamond Roller Chains transfer power without slip at 98-99% efficiency. They provide the reliability and long life so important in the present day effort to speed output and reduce delays.

Not depending on friction, Diamond Roller Chains are easy on bearings and widely recognized for their high uniform quality—the No. 1 roller chains since 1890. . . . Diamond Stock Sprockets are available in a wide range of sizes and types to meet most roller chain requirements. . . . Write for Catalog 709.

DIAMOND CHAIN COMPANY, Inc.
Dept. 465, 402 Kentucky Ave.
Indianapolis 7, Indiana
Offices and Distributors in All Principal Cities

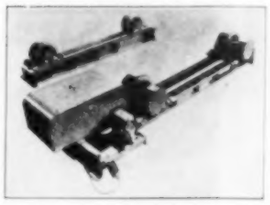
Refer to classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER.

DIAMOND ROLLER CHAINS

BREVITY—Identify by IEN - 7370 if you write the maker

WELDING . . Work positioner rolls rate 75 ton with rubber tired wheels

Source: WORTHINGTON PUMP & MACHINERY CORP.
423 Worthington Ave., Harrison, N. J.



Model 75PR and 75IR designate improved construction of the power-driven and idler work-positioner rolls, previously described IEN-12330-50. The motor-driven assembly employs a variable-speed transmission with a speed range to meet requirements. The rolls themselves are mounted on stationary shafts on tapered-roller bearings. Connection between the rolls and a worm gear is by alloy-steel spur gears enclosed with a guard.

Load rating is based on one power-driven assembly and two idler assemblies, each of the three rating 25 ton.

BREVITY—Identify by IEN - 7371 if you write the maker

PROTECTING . . Safety padlock guards workers in dangerous locations

Source: CORBIN CABINET LOCK DIVISION
51 High St., New Britain, Conn.

Model P65R is a new tag-equipped padlock with a 2¾ in. hardened-steel shackle. The metal tag is designed to carry a worker's name or number. The lock applies on valves or switches to hold lines closed or circuits open while repairs or adjustments are being made in out-of-sight locations. The disc tumbler mechanism provides for 200 key changes. Master keying can be specified.

BREVITY—Identify by IEN - 7372 if you write the maker

WOOD WORKING . . Dowel machine to drill, tenon, taper, thread

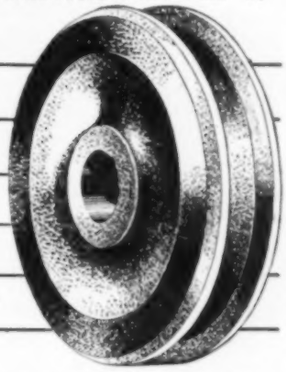
Source: HAWKER MFG. CO.
1423-27 Keowee St., Dayton 4, Ohio

Model T-50 is a new dowel-chucking machine, companion unit to the turning machine previously described IEN-10050-50. The new unit feeds dowels from a magazine rack, moving them upward on an incline to register with the machine head in which tools are located for a given operation. The head spindle is driven by a 3,600-rpm. motor. The completed work is discharged over the upper end of the incline. The machine is mounted on casters for portable application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7373 if you write the maker

WROUGHT STEEL CRANE WHEELS by STANDARD

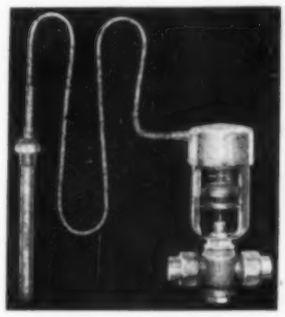


Built for *extra* service by a pioneer producer of railroad wheels, under continuous quality-control from melting of metal to final finishing. Rugged, tough, strong, durable. Available in a range of sizes. Prices on request.

BALDWIN-LIMA-HAMILTON CORPORATION
PHILADELPHIA 42, PA.
Offices: Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, Washington.

BALDWIN-LIMA-HAMILTON

BREVITY—Identify by IEN - 7374 if you write the maker



NEW! SYLPHON No. 999 temperature regulator

More powerful...more compact!

This new Sylphon regulator is more powerful, has stainless steel* frame for minimum heat conduction. Less height and weight. Large size, 2-ply Sylphon bellows for added power. Self-operating. Requires no auxiliary power source. Recommended for all industrial processes requiring accurate temperature control. Ideal for storage water heaters, metal plating tanks, bottle washers, treaters, etc. Other models. Write for Catalog NN-A. **Contingent upon materials availability.*

FULTON SYLPHON DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representatives, Darling Brothers, Montreal

BREVITY—Identify by IEN - 7375 if you write the maker

Millions of Home "Laboratories" Demonstrate Durability of BM-13080

BM-13080 is an improved impact BAKELITE Phenolic Molding Material that retains its mechanical strengths under long periods of immersion, exposure to high humidities, elevated temperatures, and mild alkali and acid solutions.

Millions upon millions of housewives, by putting their washing machines to hard service over a period of years, have provided the finest test imaginable to prove the durability of BAKELITE Phenolic BM-13080, employed for the agitators in these machines.

Such outstanding service has led naturally to other important applications. Today BM-13080 is employed for such parts as pump rotors, valves, baffle plates, gasoline pump components, soap injectors, water filters, and a great variety of equipment that calls for retention of impact strength, plus resistance to heat, moisture and chemicals.

BM-13080 is readily molded into rich, black, smooth-surfaced products. Here are typical properties obtained by testing standard test specimens in accordance with ASTM procedures:

Molded Specific Gravity (D392-38)	1.36-1.39
Heat Distortion Temp. (D648-45T)	290° F. min.
Water Absorption (D570-42) Per Cent Gain in Weight	0.7 max.
Izod Impact Strength (D256-47T) Ft. lb./Inch of Notch	0.46 min.
Compressive Strength (D695-44T), psi	25,000 min.
Tensile Strength (D651-48) (⅛"), psi	6,500 min.
Flexural Strength (D790-45T), psi	9,000 min.
Modulus of Elasticity in Flexure (D790-45T), psi	9 x 105 min.

You, too, may have need for a superior phenolic plastic to meet exacting specifications for defense or essential civilian uses. If so, it will pay you to investigate BAKELITE Phenolic BM-13080.

For further information, present your detailed requirements to Department BY-14.

BAKELITE TRADE-MARK
Phenolic PLASTICS

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

BREVITY—Identify by IEN - 7377 if you write the maker

BEFORE YOU!

the internal design and capacity of the spray nozzles used in a spraying operation often determines the cost and quality of that operation. See for yourself why Spraying Systems spray nozzles are the SPECIFIED nozzles of industry today. Write for Catalog 22 . . . the facts are all there.

SPRAYING SYSTEMS CO.
3208 RANDOLPH STREET • BELLWOOD, ILLINOIS

Write for Catalog 22, General Catalog
Catalog 23, Pneumatic Atomizing Nozzle Catalog

BREVITY—Identify by IEN - 7378 if you write the maker

Alnor

Velometer

Gives instant, direct reading of Air Velocity —Anywhere!

Here is a precision-built, self-contained, portable instrument that gives instant, accurate reading of air velocities—anywhere. The Velometer is compact, portable—accurate in all ranges, from high to low. Needs no calculations or reference charts. Anyone can use it and get accurate measurements. Available in a wide range of scales, and with a wide assortment of jets and fittings if needed. You'll want full details and prices, so write for Bulletin No. 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 N. La Salle St., Chicago 10, Ill.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

BREVITY—Identify by IEN - 7379 if you write the maker

This FREE Manual Will Show You How Dy-Namic Balancing Fits Into Your Plant!

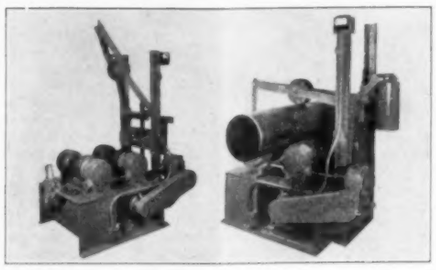
Vibration reduced . . . product performance improved . . . and mechanical failures eliminated. Three time-saving, money-saving reasons why Knapp-Monarch Company, St. Louis, has adopted "Bear" Dy-Namic Balancing as a regular production procedure. If you are not yet Dy-Namically Balancing all of your rotating parts . . . IT'S TIME TO INVESTIGATE. The new 24-page Bear Manual will give you all the up-to-date facts and will show you how others are using the latest "Bear" Dy-Namic Balancing Techniques for rotating parts of finished products and also in the maintenance of their own production machines and operating equipment. Write now for your Free Copy. Bear Mfg. Co., Dept. L5, Rock Island, Ill.

"BEAR"
STATIC AND DY-NAMIC BALANCING MACHINES

BREVITY—Identify by IEN - 7380 if you write the maker

WELDING . . Variable speed rotator for pipe or cylinders, 4 to 30 inches

Source: CECIL C. PECK CO.
4612-16 Prospect Ave., Cleveland 3, Ohio



Pipe Rotator Type PR-1 is a new variable-speed machine to cradle pipe or cylindrical work for rotation in connection with welding, brazing, burning, cutting, grinding. The work is placed on the rubber-tired wheels. It is held there by a counter-balanced arm also equipped with a rubber-tired wheel that clamps down so this wheel rides the work. The motor drive includes electronic variable-speed control. A tachometer completes the assembly.

The machine shown in the illustration measures 39 by 34 by 76 inches. The rolls are 10 in. in diameter by 6 in. in width and load capacity is 5,000 lbs., centrally located. Rotating speed is 7 to 42 in. per minute. The machine is available to order to meet specified requirements.

BREVITY—Identify by IEN - 7381 if you write the maker

MILLING . . Horizontal machine, 6 by 18 in. table, hydraulic feed

Source: VIKING INDUSTRIES
218-22 Montague St., Dept. J, Rockford, Ill.

Speed-Mill No. 618 is a new machine for production application on small parts. It mounts a 2-in. roller-bearing spindle equipped with a No. 9 B&S. taper for arbors, shanks and adaptors. Four standard speeds are between 200 and 975 rpm. Additional speeds can be specified between 100 and 3,500 rpm. The machine will drive cutters to 6 in. in diameter.

The 6 by 18 in. table has 8½ in. of longitudinal power movement, 7-in. maximum longitudinal feed. Controls are provided for rapid approach at 180 ipm., feed in an adjustable valve-controlled range between ⅜ and 24 ipm. Included is automatic reverse and quick return at 250 ipm. Distance between the table top and the center of the spindle ranges from zero to 7½ inches. Transverse adjustment for the table measures 1¾ inches. A ¾-hp. motor drives the spindle. A ½-hp. motor drives the hydraulic and coolant pumps. Floor space measures 32 by 30 inches. List price is about $2,000.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7382 if you write the maker

Got A MINUTE? Got A PENNY?

—then you can **CUT A KEYWAY**

— any width from 1/16" to 1" in any bore from ¼" to 3"—in gears, cutters, pulley hubs, collars, couplings, etc., with du Mont "Minute Man" Keyway Broach Kits. Do the job in 60 seconds for as little as one cent per keyway. Costs you *dollars* to do it any other way.

CLIP THIS COUPON for the low down on this great little time and money saver

The du MONT CORPORATION, Greenfield, Mass.

Please mail descriptive folder and price list N on *Minute Man Keyway Broaches and Kits.*

Name.....

Company.....

Address.....

BREVITY—Identify by IEN - 7383 if you write the maker

"NATIONAL" Self Lubricating Bronze Bearings

Molded to Your Accurate Specifications

Our "DUCTILOY" bearings are made from a unique powder formula, perfected by "National" Engineers, that result in a bearing with properties possessed by no other bearing on the market. Our special alloy makes these bearings highly ductile and eliminates waste due to breakage at installation or from rough handling.

We are also very proud of our line of spherical bearings and of our hard won reputation for the delivery of intricate powdered metal parts, heretofore considered impossible to produce.

Applicable to all medium and light weight service, such as Automobile, Electrical Appliances, Farm Equipment, Domestic Appliances, such as Sweepers, Refrigerators, Washers, Portable Electric Tools, etc., and Industrial Machinery.

LET US HELP SOLVE YOUR BEARING, BUSHING AND SHAFT SEALING PROBLEMS

We are equipped to handle your requirements in any quantity.

NATIONAL MOLDED PRODUCTS, INC.
Manufacturers of
Sintriloy, Ductiloy and Tubeloy Bearings
1945 MILL STREET • ST. MARYS, PA.

BREVITY—Identify by IEN - 7384 if you write the maker

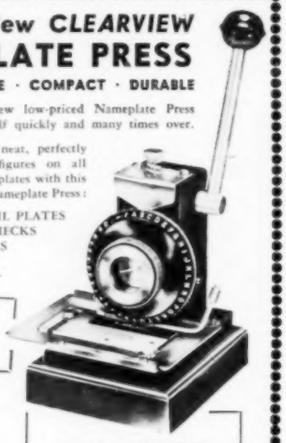
The New CLEARVIEW
NAMEPLATE PRESS

EASY TO OPERATE · COMPACT · DURABLE

Here at last is a new low-priced Nameplate Press that will pay for itself quickly and many times over.

Now you can stamp neat, perfectly aligned letters and figures on all types of identification plates with this new, easy-to-operate Nameplate Press:

MACHINERY DETAIL PLATES
KEYS — TAGS — CHECKS
DIRECTORY PANELS
and scores of other identification purposes.



PREVENTS IRREGULAR ALIGNMENT, SPACING, DEPTH

- Stamps Neat Uniform Characters
- Fully Automatic Letter Spacing
- High Quality Hardened Steel Dial
- Adjustable Depth Control
- Accommodates Plates up to 2½" x 4"
- Nickel Plated Throughout
- Uses No Electricity

FULLY GUARANTEED

Write, call or wire today for complete information and price.

The CLEARVIEW Company
345 E. Houston St., New York 2, N. Y. GR. 3-3830

BREVITY—Identify by IEN - 7385 if you write the maker

NO TRAFFIC TIE-UP!

...WHEN YOU REPAIR OR RESURFACE WITH DURA-TRED...

QUICK-FLOOR

- **QUICK FLOOR makes a complete, permanent, heavy duty concrete floor patch (or covering) in one minute and is ready to use when placed. Placing causes no delay or interference to traffic. The rule is place, pack, and use without cutting or mixing.**
- **The continuous use of Quick Floor since '38 by many people (some over three hundred drums), spells satisfaction.**
- **We guarantee satisfaction. Service as required, of course. Write for new folder.**

dura-tred Co. Manufacturers since 1938
352 N. Central Pk. Blvd. Chicago 24, Illinois

BREVITY—Identify by IEN - 7386 if you write the maker

This Borium Liner STOPS FAST WEAR in blast cleaning nozzles

Ever hear of BORIUM? It's a man-made metal with diamond-like wear resistance! Used in blast cleaning nozzles, costly wear and fast cut-outs are forgotten. Lasts hundreds of times longer than ordinary cast iron nozzles when cleaning with sand and other common abrasives... Saves compressed air, maintains high velocity, keeps a close, tight pattern. You can buy BORIUM NOZZLES in standard types and sizes... or we'll furnish special BORIUM Nozzles or Borium Liners made to your specifications. Write for descriptive folder and prices.

STOODY COMPANY
11930 EAST SLAUSON AVENUE, WHITTIER, CALIFORNIA

BREVITY—Identify by IEN - 7387 if you write the maker

New Pitman HYDRA-LIFT

converts your truck

into truck crane

at amazingly low cost!

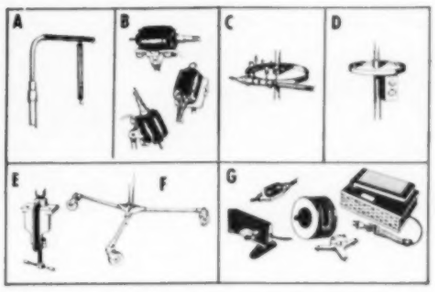
Hydra-Lift fits on the bed of your present truck, needs only about 38" behind the cab, yet it has a rated lifting capacity of 6,400 pounds! Hydra-Lift has a 22-foot telescoping hydraulically-powered swinging boom, yet you can still use your truck for all normal truck purposes! A truck equipped with Hydra-Lift can load onto itself, then transport the goods at normal truck speeds! It's part truck, part crane, with the usefulness of both at only a fraction of the cost! Used with great success for many jobs in many different industries. Write today for pictures, prices, full details!

PITMAN MANUFACTURING COMPANY
300 W. 79th Terrace Kansas City, Missouri

BREVITY—Identify by IEN - 7389 if you write the maker

GRINDING .. Portable stand to mount flexible shaft grinder

Source: SPRING SPECIALTY CO.
21-25 N. 5th Ave., Maywood, Ill.

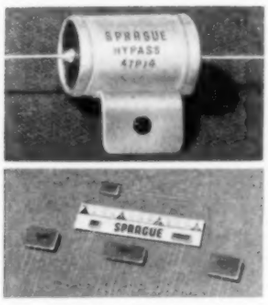


The company has assembled certain of the standardized parts from its line of flexible-shaft grinding equipment to provide a support stand mounted on casters and a collection of accessory items suitable for mounting any standard make of flexible shaft grinding equipment. The stand will take grinders weighing to 15 lb. with motors not larger than ¼ hp. It provides a circular plate to hold mounted points and various tools. Electrical equipment for control of the motor can be added. Two stand designs include one mounted on three casters and one in which the bottom terminates in a clamp to grip the edge of a bench.

BREVITY—Identify by IEN - 7390 if you write the maker

CAPACITORS .. Cylindrical and flat for application in electronic equipment

Source: SPRAGUE ELECTRIC CO.
344 Beaver St., North Adams, Mass.



Hypass at the top of the illustration and Bulplate shown at the bottom are new capacitor designs in the company's line of electronic components. The Hypass unit is in 1,000 and 2,500-volt dc. ratings. It is particularly suited to suppress radio interference and harmonic generation in high-voltage circuits, transmitters and industrial units.

The Bulplate flat unit is made in six physical sizes in single and multiple-capacitance combinations with ratings to 5,000 volts. A single unit can combine all of the capacitors in one or more electronic circuits. Special designs are available to include printed wiring, shielding and other printed-circuit details. Each unit is covered with a moisture proof coating to protect against short circuiting and for satisfactory operation in the presence of humidity, high temperature and vibration. Detail illustrated information is contained in 4-page Bulletin 212B and in 2-page Bulletin 602.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7391 if you write the maker

TORNADO®

Wet or dry—positive pick-up!

Vacuum Cleaner

For over 30 years, Tornado has been used in hundreds of industrial plants, hotels, restaurants, hospitals, schools and other institutions. Tornado saves time, cuts maintenance costs, can be operated by inexperienced personnel. Sturdy, lightweight, gives years of trouble-free service. Quickly adaptable to any cleaning chore. Free demonstration—write for name of nearest representative.

FREE! Bulletin 600-IE7

BREUER ELECTRIC MFG. CO
5100 N. RAVENSWOOD AVE. · CHICAGO 40, ILL.

BREVITY—Identify by IEN - 7392 if you write the maker

GE MERCURY SWITCHES

your customers look for them

G-E Mercury Switch. Single- and double-pole, three- and four-way. For 125 volts—10 amp and 250 volts—5 amp. Brown or ivory handle. No moving parts to burn out—a pool of mercury does the trick.

The next time you do a wiring job, recommend G-E mercury switches — national consumer advertising has created a strong public acceptance for these switches.

Prospective owners, architects, and builders of homes, offices, hospitals, and plants, like the silent, click-free feature of G-E mercury switches. They learn to appreciate their faithful service.

Recommend G-E mercury switches. Your customers have been conditioned to look for them.

Section D76-742, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

BREVITY—Identify by IEN - 7393 if you write the maker

IBM reports— 5 drafting-room short cuts now possible with Kodagraph Autopositive Materials

A case history based on the experience of the International Business Machines Corp., Endicott, N. Y.

With Kodagraph Autopositive Paper — the revolutionary material that produces positive photographic intermediates *directly*; that can be *handled* in room light . . . *exposed* in a direct-process or blueprint machine, or vacuum frame . . . *processed* in standard photographic solutions.

1. **Redrafting time saved.** IBM makes Autopositives of standard plug-board panel drawings on which various wiring arrangements must be shown. To these intermediates, draftsmen simply add the wiring detail . . . and print-making masters are ready.

2. **Blueprints can be reproduced.** These prints are used to exchange design information between IBM plants. Whenever extra prints are needed for the shop, Autopositives are made directly and used to produce the required prints.

3. **Opaques no problem.** Autopositives can be made from charts, graphs, pasteups—even two-sided originals.

With Kodagraph Autopositive Film — which is handled, exposed, and processed like Autopositive Paper, but whose base is famous Kodak safety film — highly translucent, tough, matte-surfaced (to take pen or pencil notations).

4. **Old drawings are restored.** Weak lines are intensified, backgrounds are cleaned up, when IBM reproduces certain types of old drawings on Kodagraph Autopositive Film. As a result, sharp, legible shop prints can be produced at top speeds.

5. **Halftones are copied.** Printed illustrations—including halftones and line sketches—are reproduced faithfully on Autopositive Film. And from these intermediates, the desired number of direct-process prints is run—each sharp, crisp, clear.

Write today for a free copy of "Modern Drawing and Document Reproduction." It gives full facts on the complete line of Kodagraph Reproduction Materials, which you, or your local blueprinter, can process conveniently, economically.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE MARK

BREVITY—Identify by IEN - 7395 If you write the maker

IDEAL METAL CUTTING SAW FOR YOUR SHOP!

Kalamazoo BAND SAW

A veritable workhorse in any shop. Cuts bars, angles, tubes, pipe, and rounds with no burr, minimum kerf. Works fast, smooth and accurately. Uses standard 1/3 HP 110/60/1 motor. Completely portable. Write for details on this low cost metal cutting saw.

Model 610-S. Capacity 6" round, 6" x 10" flat. Coolant equipment available.

MACHINE TOOL DIV. Kalamazoo TANK and SILO CO.
737 HARRISON ST. KALAMAZOO, MICH.

BREVITY—Identify by IEN - 7396 If you write the maker

ACCRITEM

Provides Accurate Low Cost Heat Control for liquids or air

Compressed air or water operated

POWERS

ACCRITEM REGULATOR

Small Size
Easy to Adjust

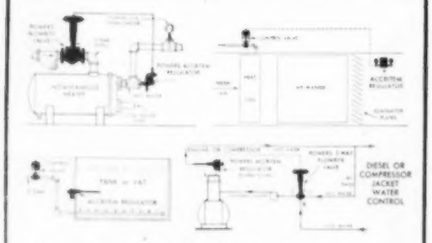
Ranges: 50 to 250° F. and 150 to 350° F.

Use ACCRITEM to control pneumatic or water operated diaphragm valves. Calibrated dial provides easy temperature adjustment. It is easy to install. Has adjustable sensitivity and over-heat protection.

Dependable—rugged construction of this heavy duty regulator insures many years of reliable service.

Size—regulator head is only 2⅞" x 3⅝", sensitive bulb is 12" long, diam. ½" with ½" I.P.S. connection.

Use POWERS ACCRITEM REGULATORS for



Also: Air conditioned bakery proof boxes and fermentation rooms, rotary type dryers and many other applications.

Powers quality line of FLOWRITE and METAFLOW diaphragm valves controlled by a Powers ACCRITEM Regulator provide an unbeatable combination for better control.

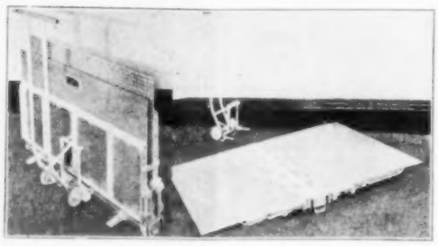
Write for Bulletin 316

THE POWERS REGULATOR COMPANY
2737 Greenview Avenue, Chicago 14, Illinois (AMA)
Established 1891 • Offices Over 50 Cities • See Your Phone Book

BREVITY—Identify by IEN - 7398 If you write the maker

FLOORS . . Folding steel dockboard and truck to place and remove it

Source: SUPERIOR RAILWAY PRODUCTS CORP.
510-14 Franklin Ave., Pittsburgh 21, Pa.



PAR designates portable adjustable ramp or dockboard for application between the platform and a railroad car or truck. Feature in the construction is the folding design and the two-wheel truck with which the board can be placed and removed by one man.

Overall dimensions in opened position for Model 100 is 48 in. in width by 60 in. in length, plus a lift apron measuring 4 inches. Rise is 6 in. on a 10 per cent grade. Load capacity is 4 ton. The board is made of steel. It occupies a 1 by 4-ft. area, including its truck, when it is not in use. The two leaves are locked in upright position.

BREVITY—Identify by IEN - 7399 If you write the maker

CONVEYING . . Mobile bucket loader, engine driven, rates 5 cu. yd. per min.

Source: GEORGE HAISS MFG. CO.
Canal Place & 143rd St., New York 51, N. Y.

Illustrated is recently improved design of the company's Model 80 engine-driven bucket-type loading machine. It is available in both wheel and crawler mountings and centers its controls at an operator's position on one side. The improved construction employs anti-friction bearings, hydraulic controls, roller chain in the bucket line and on the transmission. Gathering blades can be renewed in the field.

BREVITY—Identify by IEN - 7400 If you write the maker

PLASTICS . . Technical data in booklet on vinyl acetate resins

Bakelite Co. Division
300 Madison Ave., Dept. 1503-A, New York 17, N. Y.

Forms, properties, applications are given in detail by new 24-page Bulletin P-3 on "Vinylite" vinyl acetate resins. Information is included on compounding, bonding, compatibility and solubility, uses in solution and dispersion forms.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7401 If you have to

If you have to HOLD

ANYTHING in your production operations

Hold EVERYTHING with "DE-STA-CO" Toggle Clamps in welding, riveting, bonding, machining and assembly. • Fast clamping, positive holding pressures, instantaneous release—Toggle Clamps speed up your operations and cut your costs. • There are more than 40 different Toggle Clamps manufactured by Detroit Stamping Company in various types and sizes to meet industry's requirements.

MODEL 424
PORTABLE PLIER CLAMP
For one-hand use in cramped work areas and small space. Deep jaw capacity but only 4½" in length.

MODEL 650
HEAVY DUTY PLUNGER CLAMP
For "push-pull" work-holding jobs where considerable pressure is needed. Compact; up to 4000 lbs. capacity.

MODEL 235-U RETRACTABLE CLAMP (Not illustrated)
Quick, unimpeded loading and unloading of fixtures easily possible with this one. Up to 750 lbs. pressure.

Ask for "DE-STA-CO" Toggle Clamp Catalog and name of representative nearest you who is stocking our entire line of Toggle Clamps.

DE-STA-CO **DETROIT STAMPING COMPANY**
342 MIDLAND AVE. • DETROIT 3, MICH.

BREVITY—Identify by IEN - 7402 If you write the maker

Chem-Board Tote Boxes HELP BUILD AIRCRAFT . . .

Many plants building the planes needed to make the nation strong keep materials, parts and sub-assemblies flowing to production lines in thousands of Convoy Chem-Board Tote Boxes. The nesting boxes illustrated are stored in minimum space while awaiting new loads.

Chem-Board is made of corrugated fibre-board, chemically impregnated by Convoy's exclusive process. It is flint hard and rock strong. It is not weakened by moisture. It is impervious to machine oils. Convoy Tote Boxes cost and weigh 50% to 60% less than steel.

The lightness, toughness and economy of Chem-Board Tote Boxes are unmatched. Tell us the style you use . . . we'll send a free production sample from the next run for you to test. As a guide for present and future availability, our current production capacity is reserved for the unprecedented demands from old customers and "DO" orders. Orders rated DO-97 are acceptable. Write today.

Standard and Custom-made Nesting—Stacking—Vertical CHEM-BOARD TOTE BOXES

CONVOY, INC.
P. O. Station B, Box 216-I
CANTON 6, OHIO

BREVITY—Identify by IEN - 7403 If you write the maker

LANG Tool and Die Manufacturing Company, Glendale, California, use Cerromatrix to anchor small punches in high-production lamination dies. They guarantee these dies for 2,000,000 blanks minimum.

Punches are held vertically by cap screws and mounted in Cerromatrix. Very small punches are held by circular washers outside and inside of punch, located in a ⅝" groove ground in the punch. All small punches are guided through a fixed stripper with Nitrided inserts.

At least 1/3 of the length of the punches is held in Cerromatrix. The photograph shows a die for rotor and stator blanks. It runs 135 strokes per minute. Eighty to eighty-five thousand blanks are obtained per sharpening of die. Send for literature.

CERRO de PASCO Corporation
(Formerly Cerro de Pasco Copper Corporation)
Dept. 6 • 40 Wall Street • New York 5, N. Y.

BREVITY—Identify by IEN - 7404 If you write the maker

"DIX-LOCK"

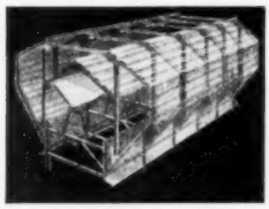
Quick-Acting, Streamlined AIR HOSE COUPLING

A modern, efficient coupling for all factory and field air lines up to ¾". Made of rustproofed steel or bronze. Light weight, yet strong and durable. Snap-lock action . . . quarter turn against spring tension; reverse quarter turn to unlock. Hose ends; male and female I. P. T. ends. Completely interchangeable.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

BREVITY—Identify by IEN - 7405 if you write the maker



WHEN LABOR SLOWS DOWN REVITALIZE WITH BURT MONOVENT VENTILATORS

Fresh air is your best assurance of active, "working" employees. Bad air slows production.

Heat, smoke and fumes can be replaced by fresh, live air economically with the Burt Monovent Continuous Ridge Ventilator. Installed on any type roof, it functions as a giant exhaust valve along the entire length of the structure. A complete range of sizes from 4" to 96" handles almost any application.

Simple to maintain, fool-proof and easy to install, the Burt Monovent is an investment that soon pays its way in improved production. See Sweet's for further details or write for Bulletin S.P.V. 6.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

909 So. High St. Akron 11, Ohio

BREVITY—Identify by IEN - 7406 if you write the maker

CUT COSTS faster BY CUTTING with STONE High-Speed CUT-OFF MACHINES

Production cutting of ferrous and non-ferrous metals at the rate of 4 seconds per square inch.

Powerful and ruggedly built, flexible and easily operated, Stone High Speed Cut-Off machines are ready to give you all the advantages of fast, clean, low-cost abrasive cutting. The geared-in-head motor on each model is engineered without the use of belts, an exclusive Stone feature permitting delivery of maximum constant power. Result: Increased cutting speed affords greatest efficiency and insures longer wheel life.

STONE Swing-Cut M14

32" x 34" bench model

- Full 3½ h.p. geared-in-head motor engineered with positive drive.

- Cutting head swivels up to 45° in either direction for angle cutting.

CAPACITY

Ferrous and non-ferrous solids up to 1½" — pipe and structurals up to 2½".

STONE Swing-Cut M16

Floor Model — Min. space required: 2½' x 4'

- Full 5 h.p. geared-in-head motor engineered with positive drive
- Self-centering vise mounted on swivel plate permits quick change for cutting any angle up to 45°

CAPACITY

Ferrous and non-ferrous solids up to 2½" — pipe and structurals up to 4". Can be equipped for Wet Cutting.

Write for Further Information

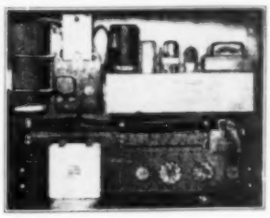
STONE MACHINERY CO., INC.

310 Fayette St. Manlius, N. Y.

BREVITY—Identify by IEN - 7408 if you write the maker

TESTING . . Electronic recorder traces strain, temperature, speed

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO. 4456 Wayne Ave., Philadelphia 44, Pa.



High speed characterizes the action of this new ElectronIK recorder in the company's line of testing equipment. It can be employed with thermocouples, pyrometers, pressure or force transducers or other actuators capable of sending a dc. signal. Full-scale signals varying at 20 cycles per min. can be recorded. Those varying at 3 cycles per sec., with peak-to-peak amplitude of 10 per cent of full scale can be handled also. Chart speeds of 1 to 4 ips. or 120 to 480 iph. can be supplied. Operation is on 110-volt 60-cycle ac.

The mechanism includes a measuring circuit, a converter, an amplifier and a balancing motor. The dc. signal from a thermocouple or other dc. source is changed to an ac. signal by the action of a vibrating reed converter and an input transformer. The ac. signal output from the transformer bears phase relation to line voltage. This enables the recorder to recognize increase or decrease in the source voltage from a null position on the measuring-circuit slidewire. The ac. signal is amplified to provide sufficient power to excite the amplifier field winding of the two-phase balancing motor. The pen is driven by a cable drum which is an integral part of the balancing-motor pinion.

BREVITY—Identify by IEN - 7409 if you write the maker

CONVEYING . . Portable belt unit rates 200 lb. load at 30 deg. incline

Source: MATHEWS CONVEYER CO. 191 Tenth St., Ellwood City, Pa.

Rough-Top belt is standard for operation at 100 fpm. on this new portable incline belt conveyor. Drive is by a ½-hp. geared-head motor available to specification at 110 or 220-volt ac. Belt widths are 8, 12 or 16 inches. Frame length inside the head and tail pulleys measures 10 feet. The design is known as Eastern Type.

The frame is mounted on a dolly under the front end and on rubber-tired wheels at the rear. Both ends adjust vertically independently. The wheels and the dolly are interchangeable. Overall width at the wheels is 25 to 33 inches.

Discharge is at 81 in. above the floor with the discharge end up and the feed end down. In this position the feed is 9 in. above the floor. Incline in this position is at 35 degrees. Minimum distance above the floor is 27 in. and maximum is about 31 in. when the belt is positioned horizontally.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7410 if you write the maker

If you use tubing to convey liquids, gases or semi-solids, Titeflex can help you do it better at less cost. Titeflex flexible tubing is made in brass, bronze, stainless, Monel and Inconel. It's made in types and sizes to withstand temperatures to 1550°F. and pressures to 6800 psi. It's available in a full range of sizes, complete with any required styles of fittings. In addition, Titeflex is all-metal. Regardless of the operation, it is more resistant to fatigue . . . it will stand up longer and give better service.

Write us for catalog outlining Titeflex advantages in full.

Titeflex, Inc.

506 Frelinghuysen Avenue, Newark, N. J.

TITEFLEX FILLS TUBING REQUIREMENTS TO A . . Z

BREVITY—Identify by IEN - 7411 if you write the maker

days hath September, April, June and November...

your Royal dealer could give you 'One-month' delivery...maybe!

Why does it take so long to get delivery on Royal furniture? Here are four very good reasons...

1. Government purchasing demands have increased.
2. Material shortages and restrictions have developed.
3. D.O. orders take priority over non-defense production.
4. The overwhelming increase in Royal's popularity on today's consumer market!

If you can wait...you'll be wise to wait for Royal!

Royal

METAL FURNITURE SINCE 1897

ROYAL METAL MANUFACTURING COMPANY

175 NORTH MICHIGAN AVENUE · CHICAGO 1

New York • Los Angeles • Michigan City, Ind. • Warren, Pa. • Preston and Galt, Ontario

BREVITY—Identify by IEN - 7412 if you write the maker

THREE DIAL SIZES 12 INCH 24 INCH 30 INCH

•

LOW HEAD ROOM

MODELS 500 TO 100,000 POUNDS CAPACITY

•

HYDRAULIC ACCURACY

HYDROSCALE

A rugged, compact crane scale that eliminates the need for weighing stations by checking the load when you lift to move it. Eliminates equipment tie-ups and lost man hours. Write for our catalog today.

SAVE TIME AND SPACE

HYDROWAY SCALES, INC.

20624 WEST 8 MILE ROAD · P. O. Box 4754 · DETROIT 19, MICH.

BREVITY—Identify by IEN - 7413 if you write the maker

Everybody wants a **HALLOWELL** STEEL WORK BENCH!

WHY? Because everybody wants the *best* equipment!

The man who *works at it* wants a HALLOWELL Bench because he likes its convenience, its *smooth, durable work surface*, and its *rock-solid "stance"*.

The man who *buys* it wants a HALLOWELL because its *standard-unit* design simplifies plant layout, its *trim, good looks* improve shop appearance, and its *tough, steel construction* eliminates maintenance and replacement for years to come.

Whether you use or *buy* work benches, you'll want our Bulletin 701. It gives complete details. Write for your copy today.

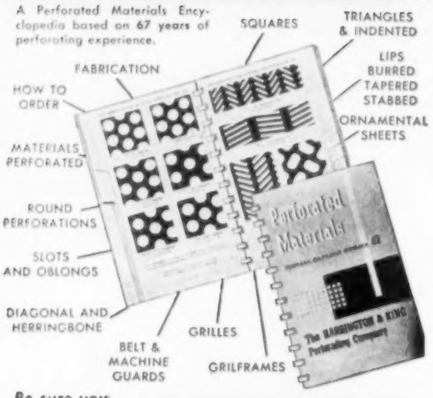
SPS STANDARD PRESSED STEEL CO.

JENKINTOWN 14, PENNSYLVANIA

BREVITY—Identify by IEN - 7414 if you write the maker

What is Perforated Material?
Where to use Perforated Material
Why H & K Perforated Material?

A Perforated Materials Encyclopedia based on 67 years of perforating experience.



Be sure you have H & K General Catalog 62 —Write for it

The Harrington & King Perforating Co.
5637 FILLMORE STREET, CHICAGO 44, ILLINOIS
114 LIBERTY STREET, NEW YORK 6, N. Y.

BREVITY—Identify by IEN - 7415 if you write the maker

10-DAY DELIVERY!

SIMPLEST... MOST COMPACT

O-M AIR HYDRAULIC WATER CYLINDERS

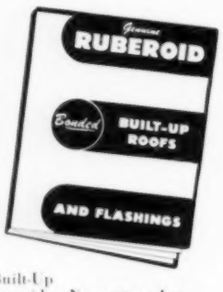
Speed production, cut costs and save space with Ortman-Miller cylinders. Full range of sizes (1½" to 8" bores) now *available for early delivery*. All machined steel and bearing bronze. Interchangeable parts and mounting brackets. Write today!

FREE TEMPLATES
Shows the full line in ½ scale. Request your free complete set now.

ORTMAN-MILLER
MACHINE CO., INC.
1208 150th Street • Hammond, Indiana

BREVITY—Identify by IEN - 7416 if you write the maker

THE RIGHT ROOF EVERY TIME!



That's what Ruberoid's Built-Up Roof Specification Book provides. No matter what your roofing problem may be, the right specification is always at your fingertips with this comprehensive file. Whether it's the special treatment required for a Water-Cooled roof or Parking Space roof, a question about the choice of base felts, or the latest in flashing details for low parapet walls, you'll find the right answer every time clearly presented in Ruberoid's Built-Up Roof Specification Book. Doubly indexed and tabbed, it is a reference you will use time and time again. A note on your letterhead will bring your free copy to you promptly.

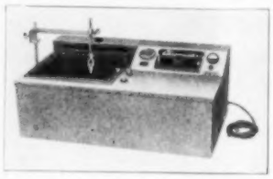
MORE YEARS FOR YOUR DOLLAR WITH RUBEROID BUILDING MATERIALS

The RUBEROID Co.
Executive Offices: 500 Fifth Avenue, New York 18, N. Y.
Sales Offices: Baltimore, Md. • Bound Brook, N. J. • Chicago, Ill. • Dallas, Texas • Erie, Penn. • Minneapolis, Minn. • Millis, Mass. • Mobile, Ala.

BREVITY—Identify by IEN - 7417 if you write the maker

PLATING .. Machine and solution to chromium plate small tools, parts

Source: WARD LEONARD ELECTRIC CO.
29-33 South St., Mount Vernon, N. Y.



Area capacity is to 25 sq. in. in this new Model A-50 Chromaster plating machine. It has been added to the No. 20 machine with capacity at 10 sq. in., previously described IEN-3-51. Overall dimensions are 32 by 19 by 14 inches. Operation is on single-phase 110-volt 60-cycle ac.

Normal life for cutting tools, measuring tools, small tools and machine parts can be multiplied by 3 to 10 times following immersion for a little over a minute after thoroughly cleaning the work. Gages and machine parts such as small gears can be protected against wear so they will provide many times their maximum unplated life.

The chromium deposit can be controlled within 0.001 inch. Rate of deposit is constant at 0.002 in. per hour. The solution is supplied in concentrated form to be diluted with water. No previous plating experience is required.

BREVITY—Identify by IEN - 7418 if you write the maker

WELDING .. Portable equipment to spot weld metal foil and screen

Source: H. I. THOMPSON CO.
1731-35 Cordova St., Los Angeles 7, Calif.

Hit-Kit No. 45-2144 is a new assembly of portable transformer-type resistance welding equipment for operation on 110-volt ac. Application is particularly in repair and alteration on assemblies of Inconel and stainless-steel foil or screen as employed in Refrasil insulating blankets. Foil thickness to 0.044 in. and screen wire to 0.020 in. can be welded after contact with the two hand-held electrodes.

Control centers at a trigger in one of the electrode holders. The equipment is packaged in a carrying box measuring 20 by 10 by 8 inches. It weighs 35 lb. with tools that are provided as standard equipment. List price is about $225.

BREVITY—Identify by IEN - 7419 if you write the maker

MANAGEMENT .. Textbook on plant layout describes procedures for new and existing plants

Prentice-Hall Inc.
70 Fifth Ave., New York 11, N. Y.

Production efficiency as the objective to be attained is stressed in new 448-page book, "Plant Layout", by Shubin and Madeheim. List price is $7.35. Topics include product design and selection of equipment, layout objectives, product and process layouts, new plant layout, existing plant layout.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER .. Descriptions .. Ratings .. See Page 50

BREVITY—Identify by IEN - 7420 if you write the maker

PRINTED TAPE

The Most Complete Line Of Pressure-Sensitive Tape Available

TOPFLIGHT TAPE CO.
YORK, PENNSYLVANIA

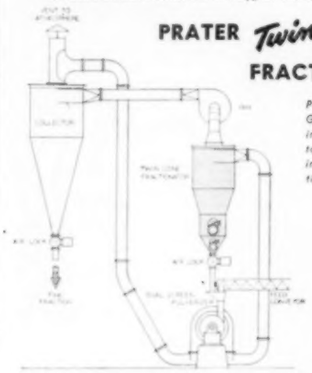
BREVITY—Identify by IEN - 7421 if you write the maker

2 PNEUMATIC CLASSIFIERS IN 1 COMPACT UNIT

- LESS MATERIAL HANDLING COST
- GREATER YIELD OF FINES

Here's a more effective means of separating finely ground materials according to particle size. Coarse material is reclassified before being discharged, and this *Refractionation* reclaims an additional 10 to 15% of the fines.

PRATER *Twin Cone* FRACTIONATOR

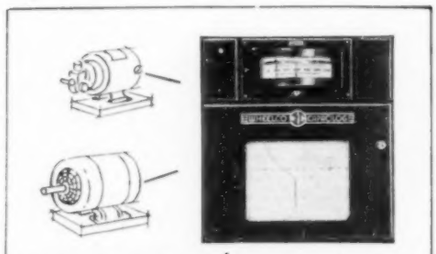


Prater Closed Circuit Grinding and Fractionating System . . . designed to pulverize and classify in one continuous operation.

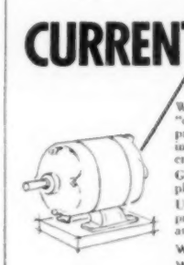
SEND FOR NEW BULLETIN

PRATER PULVERIZER CO.
1536 S. 55th Court Chicago 50, Ill.

BREVITY—Identify by IEN - 7422 if you write the maker



CURRENT RECORDS!

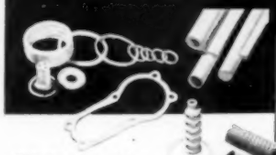


Wheelco's Caparilog with the "electronic link" provides you with precise AC/DC measurement, indication, or warning whenever critical power conditions occur.
Get selective overload protection, plus permanent current records.
Use Wheelco instrumentality to protect valuable equipment and processes.
Write for Bulletin AC-1, Wheelco Instruments Company, 845 W. Harrison Street, Chicago, Ill.

wheelco electronic controls

BREVITY—Identify by IEN - 7423 if you write the maker

New Miracle Material SILICONE RUBBER



ARCOSIL SILICONE RUBBER PRODUCTS
"O" Rings
Molded
Extruded
Die-cut
Tubing
Ducting
Couplings
Fiberglass Reinforced

Whether the problem is new product design or the improvement of present design, consider silicone, the amazing new rubber that performs to best advantage where ordinary rubbers fail.

For the answer to any silicone rubber problem, call Arrowhead—specialists in the development and manufacture of silicone rubber products of all kinds.

Trade Mark Reg. U. S. Pat. Off.

ARROWHEAD RUBBER COMPANY
DOWNEY (Los Angeles County) CALIF.
A DIVISION OF NATIONAL MOTOR BEARING CO., INC.

WRITE FOR ENGINEERING BULLETIN
Gives latest complete data on characteristics and applications of various silicone rubber compounds.

BREVITY—Identify by IEN - 7424 if you write the maker

TO READ PERCENT ALCOHOL QUICKLY, EASILY, ACCURATELY

Percent alcohol in a beverage sample is read quickly, simply and to within 0.5 percent accuracy in a range from 0 to 10 percent by volume with this FISHER-TAG Twin Ebulliometer.

The operator pours pure water into one of two twin boiling chambers to establish a control boiling temperature. He fills the second chamber with the sample. He adjusts a sliding scale to register zero with the water chamber thermometer.

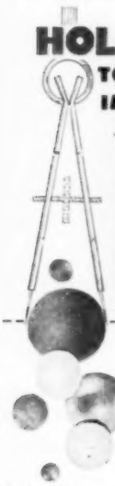
He reads percent alcohol by volume, directly at the boiling point registered by the thermometer in the sample chamber. Atmospheric conditions are eliminated as a factor. The instrument has official U. S. Treasury Department approval.

FISHER SCIENTIFIC CO.

715-19 Forbes St. Pittsburgh 19, Pa.

BREVITY—Identify by IEN - 7425 if you write the maker

HOLLEY DISCOVERS HOW TO SPARK A CARBURETOR IMPROVEMENT WITH



ACE PRECISION NYLON BALLS

Holley Carburetor Co., Detroit, uses Ace Nylon Balls as check valves in carburetors to permit a higher degree of spark advance.

For the first time . . . DuPont Nylon FM #10001 balls mass-produced to close tolerances. The result . . . toughness at low temperatures, form stability at high temperatures, light weight, chemical and abrasion resistance.

SIZES 1/8"-3/4"
TOLERANCES ± .001

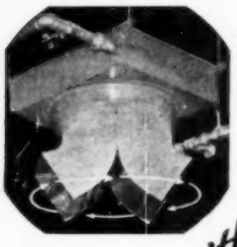
Hundreds of Industrial Applications! Let our engineers advise you.

Request samples and bulletin TODAY

ACE PLASTIC COMPANY
Precision Plastic Fabricators and Extruders

91-24 VAN WYCK BLVD. • JAMAICA 2, N. Y.

BREVITY—Identify by IEN - 7426 if you write the maker



WITH STEAM OFF, WING REVOLVING UNIT HEATERS ARE AN EXCELLENT COOLING SYSTEM

Cooling with HEATERS!

The discharge outlets revolve slowly, just as they do for distribution of heated air, projecting a cooling stream of constantly moving air over and around obstacles, to all parts of the working area. The oppressive, stagnant atmosphere is relieved, bringing renewed vigor to workers in the sticky summer months.

Wing Revolving Unit Heaters provide the same thorough circulation in the winter months with properly heated warm air. The heated air is projected over the entire plant, bypassing obstacles, eliminating hot blasts, and reaching hard-to-heat corners. For all season comfort and efficiency, versatile Wing Revolving Unit Heaters are unsurpassed.

Write for Bulletin HR-5.

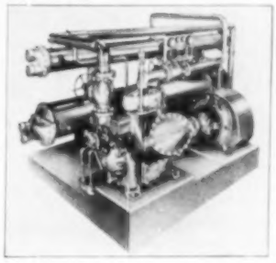
L. J. Wing Mfg. Co.
160 Vreeland Mills Rd, Linden, N. J.
Factories:
Linden, N. J. • Montreal, Canada

Wing
Revolving UNIT HEATERS

BREVITY—Identify by IEN - 7427 if you write the maker

REFRIGERATING . . Compressor and equipment in 100 to 150 hp. range

Source: CARRIER CORP.
48-52 Geddes St., Syracuse 1, N. Y.



Type 30B designates reciprocating design of two new refrigerant compressors added to the company's line of refrigerating equipment in the 100 to 150-hp. range. Each is supplied in complete assembly with cooler, condenser, interconnecting pipe, safety and capacity controls, gage panel, cooler and condenser stands. The machine is particularly suited to chill water for air conditioning. It can be adapted to other industrial requirements such as direct product cooling, ammonia and chlorine condensing.

BREVITY—Identify by IEN - 7428 if you write the maker

ROOFS . . Liquid asphalt and glass fiber sheet for roof repair

Source: ADDEX CORP.
2138 E. 105th St., Dept. 80, Cleveland 6, Ohio

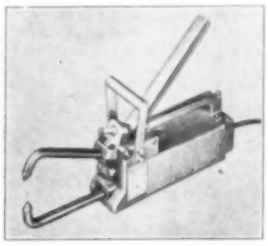
Unskilled workers can do the job

Worn built-up roofs can be restored to serviceable condition by application of the company's new No. 460 liquid asphalt and glass-fiber sheet. The two are supplied in packaged units. Application is by brush or spray to place a layer of the liquid asphalt in which the glass fiber sheet is embedded. Then a second coat is applied on the sheet to complete the job.

BREVITY—Identify by IEN - 7429 if you write the maker

WELDING . . Portable spot machine weighs 31 lb., rates 3/16 in. in steel

Source: NATIONAL CYLINDER GAS CO.
838-42 N. Michigan Ave., Chicago 11, Ill.



Heavy duty model has been added to the company's Sureweld line of portable spot welders, previously described IEN-11116-49. The machine will handle a 3/16-in. combined thickness of mild or stainless steel or two pieces of 16-gage galvanized iron. It operates on 220-volt single-phase ac.

A toggle lever locks the arms on the work while the weld is being made. Adjustment is provided for varying thickness and the arms themselves are interchangeable for given work requirements. List price without arms is $138.

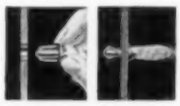
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7430 if you write the maker

Have you a similar use for this 1-piece fastener?

It's a Shelf Support...For ranges or refrigerators—in plastic and metal. Leading appliance makers have achieved substantial installation savings through it.

It's a Cabinet Door Strike...Simple to install; eliminates welding and cuts assembly cost. Any head can be designed without affecting fastening principle.



It's a Blind Rivet...Or a removable fastener. It locks and unlocks with a 90° clockwise rotation. No mating parts such as nuts or receptacles.

It's a Lifter Knob or Dashboard Plug...Plastic Spring-Lock heads are molded around steel inserts, giving strength at point of load or impact. Any shape head can be molded in any color.

What's Your Application?

...Tell us how you can use Spring-Lock Fasteners in your products. We'll be glad to work out the details with you.

Send for more data and *Free Samples* today.

Simmons Fasteners

QUICK-LOCK • SPRING-LOCK ROTO-LOCK

SIMMONS FASTENER CORP., 1758 North Broadway, Albany 1, N. Y.

BREVITY—Identify by IEN - 7431 if you write the maker

Users Tell Our Story Best!

163 ORDERS FROM 3 CUSTOMERS ALONE...TOTALED 1,421,402 LBS.

SPEED PATCH
WORLD'S FINEST, FASTEST, FLOOR FIXER!

TAKES ONLY ONE MINUTE PER SQUARE FOOT!

Think of it...just 3 customers purchased almost 1½ million lbs. of Speed Patch. And more orders are coming from them regularly. They have ordered loads of other Rock-Tred products as well. Must be good. Let their experience be your guide. Find out how Speed Patch can make your floors pay off in cash. Write today!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7460-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

BREVITY—Identify by IEN - 7432 if you write the maker

FLAT SPRING STEEL

Roebling . . . for absolutely uniform quality

FOR FLAPPER VALVES, shoe shanks, measuring tapes! For steel rules, curtain springs, snap springs, lock springs and a thousand and one other exacting uses, Roebling high carbon flat spring steel is unsurpassed.

Roebling's *complete* manufacturing facilities bring positive quality control and assure a product that saves users' preparation time . . . brings faster, smoother operation. And Roebling flat spring steel is made annealed, hard rolled untempered; scaleless tempered; tempered and polished, blued and strawed.

Large quantities of Roebling flat, round and shaped wires are required in the rearmament program, but we will do our best to meet your delivery needs. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

BREVITY—Identify by IEN - 7433 if you write the maker

GET YOUR COPY NOW!

—of "Standard's" UNBRAKO *Standards*.

Write on your business letterhead, today.

SOCKET **UNBRAKO** SCREWS

"STANDARD" Recommends *STANDARDS*

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 14, PENNSYLVANIA

BREVITY—Identify by IEN - 7434 if you write the maker

MOTO-TRUC
TELESCOPIC HI-LIFT TRUCK

Moto-Truc Battery Operated Walkie Type Trucks offer you these exclusive advantages over any other make:—Shortest overall length facilitates operation in narrower aisles, most convenient controls in easy grip roller type handle, greatest stability due to four-point mounting under load, patented articulating hinged spring unit which holds drive wheel down on floor, and exclusive braking system for greatest safety. Capacity 2,000 and 4,000 pounds.

Write for Bulletin No. 51

The MOTO-TRUC Co.
1951 E. 59th Street
CLEVELAND 3, OHIO.
Originators and world's largest exclusive manufacturers of motorized, battery operated walkie type trucks

HI-LIFT TRUCKS, PALLET TRUCKS, PLATFORM TRUCKS

BREVITY—Identify by IEN - 7435 if you write the maker

Often imitated, never equalled. Starrett Micrometers are the standard by which others are judged. Precision made throughout by Starrett precision methods based on 70 years of micrometer manufacturing know-how . . . plus 12 big features that insure better, faster measuring. Ask your distributor to show you Starrett Micrometers designed to simplify your precision measuring jobs. You'll agree, they're the finest micrometers ever to carry the Starrett name. See your Starrett distributor or write for new Satin Chrome Micrometer folder "N".

Starrett SINCE 1880 WORLD'S GREATEST TOOLMAKERS
THE L. S. STARRETT COMPANY · ATHOL, MASS., U.S.A.
BUY THROUGH YOUR DISTRIBUTOR
MEASURING · HAND MEASURING TOOLS AND PRECISION INSTRUMENTS · DIAL INDICATORS · STEEL TAPES · PRECISION GROUND FLAT STOCK · HACKSAWS · BAND SAWS and BAND KNIVES

BREVITY—Identify by IEN - 7436 if you write the maker

Production Picks Up when Synthane is the Specified Material

Synthane plastic laminates are easily worked on standard machinery. Turned, drilled, punched, sawed or milled parts may be inexpensively produced from Synthane. Synthane is light in weight, yet finished parts made from it have the hardness, toughness, density, corrosion, abrasion and impact fatigue resistance to give peak performance and long life. Automatic screw machines and Synthane rods and tubes are an excellent combination for low cost, high speed production of smaller parts.

For information about Synthane and some suggestions about what it can do for you, clip and mail the coupon today.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
South River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name _____
Firm _____
Address _____
City _____ State _____

BREVITY—Identify by IEN - 7437 if you write the maker

PACKAGING . . Sleeves and tubes made of corrugated cushioning paper

Source: SHERMAN PAPER PRODUCTS CORP.
158 Oak St., Newton Upper Falls 64, Mass.

Corroflex, the company's flexible corrugated wrapping paper, previously described IEN-672-34, now is available in cotton-stitched and wire-stapled sleeves and tubes closed at one end. Sizes are to specification. Products are inserted, the open end is sealed by stapling or stitching and the package is ready to ship.

The outer sheet of the material is made of smooth kraft paper stock that will take writing, printing, rubber stamping. The inner portion is corrugated to provide the cushioning effect. These corrugations are scored so the wrapping can be folded, creased and bent in any direction.

BREVITY—Identify by IEN - 7438 if you write the maker

TIMING . . Master clock for time keeping and interval control

Source: CINCINNATI TIME RECORDER CO.
1731-35 Central Ave., Cincinnati 14, Ohio

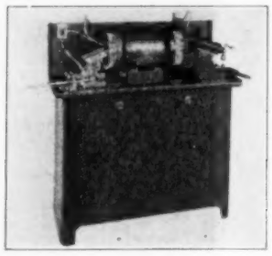
Please note corrections

We call your attention to two corrections that should be made in our previous description of the company's Master-Pro program timer, previously described IEN-6333-51. Series 290 is available as a program unit only, not for timekeeping as we stated. The program-control unit in the Master, not the master unit, is set up by inserting pins and rollers in the housing opening to the left of the clock.

BREVITY—Identify by IEN - 7439 if you write the maker

GRINDING . . Combination machine for pipe chasers and cutoff blades

Source: CONTINENTAL MACHINE CO.
1950-54 N. Maud Ave., Chicago 14, Ill.



Thread chasers for pipe to 8 in. in diameter are positioned in the adjustable holder at the left-hand side of this new grinder. Pipe and tube cutoff blades are sharpened on the right-hand side. The machine is driven by a ½-hp. enclosed three-phase motor for operation on 220/440-volt ac. The motor is equipped with a manually-operated starting switch. The assembly includes coolant-circulating equipment to prevent overheating the work being ground.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7440 if you write the maker

NEW MEAD INDUSTRIAL
AIR POWER CATALOG Ready!

Full of Suggestions for **FASTER, CHEAPER PRODUCTION!**

Illustrated, describes Air Cylinders, Valves, air operated Presses, Vises, Chucks, Hammers, Drill Press Feeds, Work Feeders, Timers, semi-automatic combinations, etc. **Pneumatic Cylinders.*

Write for Complete Catalog!

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE. DEPT. EA-71, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 7441 if you write the maker

MARSH GAUGES

—the finishing touch to a good product

Through long experience the users of your product have learned to respect the lasting accuracy of Marsh — the greatest name in pressure gauges. A Marsh Gauge on your product is truly a mark of quality.

The Marsh line embraces pressure gauges and dial thermometers of every required type, construction, size, range, finish.

Ask for this catalog covering your instrument requirements

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept., 155 E. 44th St., New York, N. Y.

BREVITY—Identify by IEN - 7442 if you write the maker

Reduce your refractory Costs with...

Johns-Manville FIRECRETE*

Cast your own refractory shapes and linings with J-M Firecrete . . . ready within 24 hours.

3X Firecrete—3000F Refractory Concrete, for linings and special shapes subjected to *3000F soaking temperatures.*

H. T. Firecrete—High Heat Duty Refractory Concrete for exposure to 2400F-2800F.

Standard Firecrete—Intermediate Heat Duty Refractory Concrete for monolithic constructions to 2400F.

L. W. Firecrete—Insulating Refractory Concrete—For direct exposure to 2400F.

*Reg. U. S. Pat. Off.

Johns-Manville BLAZECRETE*

Build and repair refractory linings with J-M Blazecrete. Applied by slap troweling or gunning. Ready for use overnight.

3X Blazecrete—3000F Hydraulic Setting Refractory for heavy patching. *Withstands soaking heat to 3000F.*

Standard Blazecrete—Intermediate Heat Duty Hydraulic Setting Refractory. Builds and repairs linings up to 2400F.

L. W. Blazecrete—Hydraulic Setting Insulating Refractory for temperatures to 2000F.

For further information, write Johns-Manville, Box 290, New York 16, N. Y.

Johns-Manville REFRACTORY PRODUCTS

BREVITY—Identify by IEN - 7443 if you write the maker

ELIMINATE WIRES

through use of

DU PONT CONDUCTIVE COATINGS

Easily and rapidly applied by spray, brush, dip, stencil to metals and non-conductors, they give a conductive surface of low resistance. One troy ounce covers about 3 sq. ft. Use them in printed circuits for radios, amplifiers, switchboards, meters; for capacitors and couplings; for static shielding to replace foils and cans; for resistors and solder seals. Save hours of time, $$$$ of cost! For more information, send for Bulletin CP-2-1247. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

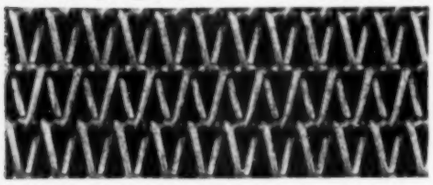
DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

BREVITY—Identify by IEN - 7444 if you write the maker

WISSCO BELTS



Cover a wide utility range

In a wide variety of applications—heat treatment of metals, glass and ceramics, and for processing foods and other products—Wissco Belts have demonstrated their ability to step up production and reduce handling costs.

Wissco Metal Processing Belts operate efficiently and dependably at temperature extremes from sub-zero to 2100°F.—are specially engineered to resist corrosion and abrasion.

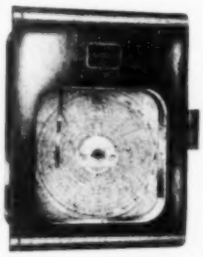
Write for illustrated folder describing the adaptability of Wissco Belts and the many money-saving advantages they offer you.

WISSCO METAL PROCESSING BELTS CF&I

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Office and Plant—56 Sterling Street, Clinton, Massachusetts
Executive Office—500 Fifth Avenue, New York 18, New York
Sales Offices—Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast—The California Wire Cloth Corporation, Oakland 6, California

BREVITY—Identify by IEN - 7445 if you write the maker

New Recording Voltmeters and Ammeters



The Latest Developments in Electrical Measurement

Outstanding for

- **High actuating torque**
- **Stability of calibration**
- **Low electrical burden**
- **Dependable accuracy**

Bristol Series 500 Recording Voltmeters and Ammeters give you these features—plus a number of refinements for convenient operation and servicing.

The new moving-iron measuring mechanism is a type known for high actuating torque and low electrical burden . . . refined by Bristol engineers for greater accuracy and ruggedness.

Write for Bulletin E1111, to THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

BREVITY—Identify by IEN - 7446 if you write the maker

NEVER BEFORE! A SWITCH SO SMALL
SO LIGHT (6½ oz.) • SO LOW PRICED
AS LINEMASTER **COMPACT**
FOOT SWITCH

Write for folder and prices NOW.

Let us quote on your special switch requirements.

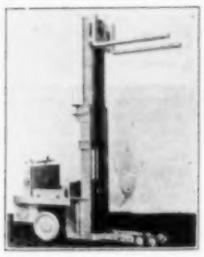
Our brand new Linemaster "COMPACT" combines unbelievable low price with the finest, most efficient design now available. It's small and light for maximum adaptability. The absolutely foolproof actuating mechanism has amazing sensitivity which permits versatile operation by foot, finger, knee or elbow. Ruggedly constructed of long lasting heavy gauge steel, featuring a handsome black crackle finish and non-skid base. "COMPACT" switch has thousands of potential profit-making industrial applications.

SIMONDS MACHINE COMPANY, Inc.
50 Saxon Road Southbridge, Mass.

BREVITY—Identify by IEN - 7447 if you write the maker

TRUCK . . Power lift fork design, 2 to 5 ton, battery powered electric

Source: ELWELL-PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 3, Ohio



New design of fork truck is based upon the company's power-lift platform truck. Supporting wheels are employed in front of the load-carrying uprights to eliminate need for counterbalancing. The new design has enabled the company to build a truck for 3-ton capacity with truck weight 2 ton less than its regular 3-ton fork truck. Essential difference between the new fork design and the company's standard platform truck is in the two reinforced alloy-steel arms or forks which take the place of the platform itself.

The forward wheels measure 6½ in. in diameter. They are located so the forks come outside of them and nearly flush with their tops in lowered position. The new truck is available in a range of sizes with ratings from 2 to 5 ton. Each is equipped with the company's steering mechanism and control.

BREVITY—Identify by IEN - 7448 if you write the maker

PROTECTING . . Printed tape to clearly label radioactive hazards

Source: NUCLEAR INSTRUMENT & CHEMICAL CORP.
225-231 W. Erie St., Chicago 10, Ill.

Available now from stock

"Radioactivity" is printed in magenta on a yellow background on a new self-adhesive tape from which small pieces can be cut to adhere on any surface. The tape provides a means to label radioactive hazards, chemicals and containers. Each complete section is 1½ in. in length. The roll measures 1 in. in width by 215 ft. in length.

BREVITY—Identify by IEN - 7449 if you write the maker

CUTTING . . Hand trim tool for asphalt, rubber, vinyl floor tile

Source: HACHMEISTER INC.
2330-34 Forbes St., Pittsburgh 13, Pa.

Speed Cutter is a new hand tool that registers against the leading edge of tile being laid upon a floor. It trims the last tile that will reach to the face of a wall so it will fit exactly. A gage is provided to cut a 9 by 9-in. diagonal half tile. The tool will cut a 12-in. tile square. List price is $59.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7450 if you write the maker

APPROVED BY THE SIGNAL CORPS FOR *Dependable Control*

Special design of the Guardian 695 D. C. Relay provides an unusually long coil without increasing the overall length of complete unit. Correct balance of copper winding and volume of iron on field piece result in maximum flux density without oversaturation of iron. Up to 6 S.P.S.T. contact combinations. Available with standard open mounting or ***hermetically sealed*** in Lug Header type housing and to specifications in A. N. Connector, Screw Terminal or Octal Plug housings.

GUARDIAN ELECTRIC
1620-H W. WALNUT STREET CHICAGO 12, ILLINOIS
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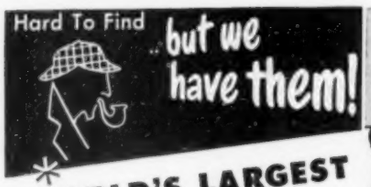

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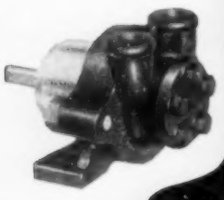

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JULY 1951

INDEX TO ALL PRODUCTS

How to find what you need:

Leaf through the issue with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

Next use this index to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

If you have trouble in finding the answer to your current problem through the subjects in this issue, let us know. We can name sources of supply with the help of our eighteen-year index of all products that have appeared in IEN.

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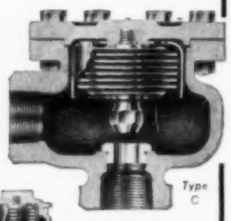

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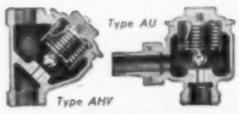

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KESTER SOLDER

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We specialize in Solving Puzzling Set Screw Problems.

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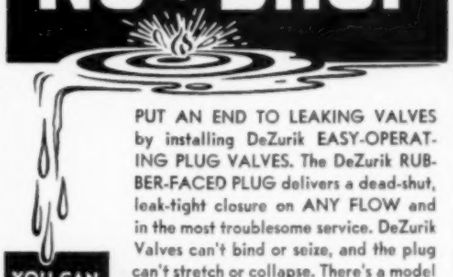
NO DRIP.. NO DROP



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SARTELL — Minnesota

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VALVAIR Diversatility undertakes to fill ANY Air Control Requirement!

9 DIFFERENT CONTROL ASSEMBLIES

5 BODY STYLES IN 5 PIPE SIZES

WITH OR WITHOUT SPRING RETURN

Styles: 2-way, 3-way and 4-way open-end exhaust. 3-way and 4-way piped exhaust. For controlling air, water, inert gas, vacuum or oil pressures up 175 p. s. i.; temperatures up to 140°F.
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Affiliate: Sinclair-Collins Valve Company

Rely Upon Valvair 2-WAY 3-WAY 4-WAY

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Send data on STONHARD Roof Resurfacers: 102/7/51
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Company
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City Zone State

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SURE Here is the positive way to remove tramp iron — install a STEARNS Electro or Permanent Magnetic pulley in your conveying system.

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of DESIGNING and MANUFACTURING EFFICIENT CONVEYING SYSTEMS

This A-F Overhead Trolley Conveyor moves tote boxes filled with defense parts.

THE ALVEY-FERGUSON COMPANY
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PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ENGINEER . . "I wish I had contact with an organization needing the services of a mechanical engineer with 11 years of supervisory experience in product design, methods, production planning, plant layout, procurement, time and motion study in connection with light and heavy equipment. I am employed at present in the Midwest." **IEN W-46**

INVESTING . . "I wish I had contact with a woodworker experienced in management of a small furniture manufacturing plant who also would be prepared to invest from $10,000 to $25,000 in the business for improvements and additions. My plant is located in Eastern Pennsylvania." **IEN W-47**

NEW PROCESS . . "I wish I had contact with a steel manufacturer interested in adopting my patented marking process to indicate the existence and depth of steel-mill scale on bar stock supplied to the user. The patent number is 2,383,165." **IEN W-48**

NEW PRODUCT . . "I wish I had contact with a manufacturer to take over production and sale of my patented 35-mm. developing reel for dark-room use to handle color film. It is particularly suited for amateur dark rooms." **IEN W-49**

SURPLUS . . "I wish we had a buyer for four new 12 cu. ft. concrete mixers of Universal Tampers manufacture with direct electric drive, enclosed gearing, self-locking discharge door, self-aligning bearings, abrasive-resistant steel drum liners, hard-metal mixer blades and arc-welded drum shell. Model is No. M-12. They are in Peoria, Ill." **IEN W-50**

SURPLUS . . "I wish we had a buyer for five rebuilt G-E motors rating 5 hp. at 1,150 rpm. for operation on 60-cycle 3-phase 220-volt ac. and also for four new 2-hp. Century motors operating at 1,740 rpm. with built-in Falk reducers for 20 rpm. output. These motors operate on 3-phase 220/440 volt 60-cycle ac. All are in stock in Peoria, Ill." **IEN W-51**

SURPLUS . . "I wish we had a buyer for a Logansport Model 1073 12-in. bore by 6-in. stroke air cylinder, Serial 74511. The cylinder has never been used. It is equipped with a Hunt 4-way solenoid valve. It is in Newark, N. J." **IEN W-52**

TRADE NAME . . "I wish we had the name and location of the manufacturer of hydraulic equipment who operates under the trade name 'Huskie'." **IEN W-53**

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BREVITY—Identify by IEN - 7471 if you write the maker

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ALLIS-CHALMERS size 0-3 across-the-line starters have double break silver to silver contacts that increase interrupting capacity and eliminates "dressing" contacts. Unhindered straight line vertical action eliminates wearing parts. Design and construction are engineered for long life — easy inspection. The only tool needed for inspection of replaceable parts is a screw driver.

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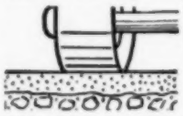

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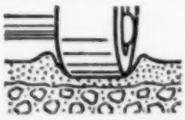

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